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**“I’m big you’re small,  
I’m right you’re wrong”**

**The influence of gender and generation on  
migrant response to flood risk in England.**

---

A thesis submitted to Middlesex University in partial fulfilment of the  
requirements for the degree of Doctor of Philosophy.

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**BSc, MSc**

School of Law  
Flood Hazard Research Centre  
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March 2016

# Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

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In loving memory of Harbans Kaur Bilkhu.

You were there when I started this; I know you will be watching when I finish.

# Abstract

This research focused on migrants in England and their perceptions of and response to flood risk. Robertson (2004) found ethnic minority groups with flood experience abroad had lower risk perceptions in the UK, which negatively affected their engagement with risk communication. Studies also indicated weak intergenerational transmission of risk attitudes between migrant generations (Bonin et al. 2010). This had not been explored in relation to South Asian migrants, their risk perceptions and response to flood risk in England and whether there is intergenerational transmission of flood risk perceptions and indigenous flood knowledge or whether this is gendered. The impact of and response to disasters may be gendered due to the enforcement of social and gender roles within ethnic communities in the developing world (Bradshaw, 2013). This had not been explored in relation to how these issues may affect the practical response to flooding in England.

This research aimed to address these gaps in the literature and explored how the different aspects of an individual's identity such as being a migrant, being a first or second generation migrant and their gender influenced their understanding of and response to flood risk and knowledge in England. The research applied an intersectional lens to explore how flood risk is understood, communicated and acted upon. Quantitative research methods were used to identify flood prone locations with diverse migrant communities. The study locations selected were Perry Barr, Birmingham and Ravensthorpe, Dewsbury. Questionnaire surveys were conducted to locate and recruit participants and provide an indication of issues to be explored further in the main qualitative research which involved one to one interviews.

The research found first generation migrants with flood experience abroad perceived flooding in England as a 'bit of water' and did not take flood risk or response seriously. Although the interviews were about floods and risk, what emerged as a 'risk' and a concern amongst South Asian migrants was not physical risks such as flooding but wider social processes as risk, in particular the westernisation of women. Thus floods in the context of this research revealed wider social and communication issues (Enarson & Morrow, 1998). The perceived risk of westernisation to the honour of the family meant a subsequent enforcement of gender norms under patriarchal control and this influenced whether women had a voice in the home. An acculturation gap led to intergenerational conflict and the devaluation of knowledge amongst generations.

The revelation of these wider issues provided an insight into the intergenerational communication of flood risk and knowledge, and how individuals could and could not respond to flood risk. First generation, uneducated women are dependent on men in a flood event, whilst educated migrant women have the power to advise their family. Educated adolescent women are bounded by their gender and age, and although they have knowledge on flood risk response, conflict limits their communication with grandparents who do not value their opinion. The study found there is intergenerational communication about flood experiences abroad, however, perceptions of flood risk are not transmitted intergenerationally. Instead the flood risk perceptions of second generation migrants are influenced by inter and intra generational communication about flood experiences in England, because although second generation migrants listen to their elders about flood risk, they believe their experience and knowledge from abroad to be irrelevant in the UK.

The intersectional lens focusing on migrants, generations and gender and how they intersect in the flood risk context provides a new insight into the complexity of how flood risk and knowledge may be constructed and transmitted. These findings contribute to knowledge on flood risk and perceptions of risk and are important as migrant numbers and ethnic diversity in England continue to grow along with flood frequency, potentially increasing the number of individuals vulnerable to flooding.

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# Chapter 1: Introduction

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## 1.1 The Research

The focus of this research is on migrant ethnic minority groups, specifically South Asian migrants and particularly Pakistani migrants and their perceptions of risk in the context of flooding. Flooding is a serious current and future threat affecting millions of residents in the UK (EA, 2009). Existing research highlighted that ethnic minority groups are a vulnerable group to flooding (Thrush et al. 2005a), and the growing and dynamic migrant population in the UK is seen to contribute to ethnic minority numbers (Cangiano, 2012, Simpson, 2013). Thus migration may increase the number of individuals vulnerable to flooding especially as a consequence of chain migration, where migrants may live in close proximity to relatives in areas vulnerable to flooding (Ghuman, 2004).

Although the literature categorises ethnic minority groups as being vulnerable to flooding, this has not been explored from a different perspective looking at ethnic minority groups specifically in the context of them as migrants, who may have had flood experiences in their country of origin. It must be considered that although their location in England may be vulnerable to flooding, this does not necessarily indicate that migrants are also vulnerable to flooding. A previous flood experience abroad may influence their risk perceptions and response to flood risk in England.

Response to flood risk can be informed by an individual's perceptions of risk and perceptions of risk can be influenced by previous flooding experiences. The higher the risk perception, the higher the number of protective behaviours adopted (Miceli et al. 2008). Existing research has indicated that ethnic minority groups with previous flood experience abroad had lower risk perceptions in the UK, which negatively affected their engagement with risk communication (Robertson, 2004). This has not been specifically related to migrant ethnic minority groups, their risk perceptions and response to flood risk in England.

The existing literature also indicated that there was weak intergenerational transmission of general risk attitudes between migrant generations (Bonin et al. 2010). This has not been explored in relation to migrant groups and the intergenerational transmission of flood risk perceptions or whether this is gendered. This was seen to be important as low flood risk perceptions amongst first generation migrants may negatively influence their response to flood risk, and the communication of these perceptions may have a negative influence on how subsequent migrant generations respond to flood risk. Furthermore, research has suggested that the impact of and response to disasters may be gendered due to the enforcement of social and gender roles within ethnic communities in the developing world

(Bradshaw, 2013). Enarson & Morrow (1998) highlight how a disaster may be important in revealing these underlying existing social structures and power relationships, providing an opportunity to explore these relations and in turn to explore their possible consequences for disaster response and risk reduction. This has not been explored in relation to South Asian families living in England, and if, and how, gendered cultural norms may continue to influence the practical response to flooding.

The importance of indigenous knowledge as a flood management tool has also been highlighted in existing research both in the UK (McEwen et al. 2012) and the developing world (Deken, 2007). This indigenous flood knowledge from abroad may be inappropriate in England, yet intergenerational communication may involve the transmission of this knowledge. This may subsequently influence how subsequent migrant generations respond to flood risk but has not been explored in this context.

The transmission of flood risk perceptions and flood knowledge between migrant generations may be based on the social network contagion theory (Scherer & Cho, 2003). This theory emphasises that an individual's risk perceptions are influenced by the perceptions of individuals in their social network. This is especially relevant when it is considered that migrant communities place great importance on maintaining social networks (Ghuman, 2004). However, if there is infrequent contact between generations, there is less likely to be communication and shared risk perceptions (Scherer & Cho, 2003).

The distance between migrants may arise due to the acculturation process and be further emphasised by the acculturation gap, especially if there is enforcement of gender and social norms. There may be strain about lifestyle choices between generations which may lead to conflict and elements of control, effectively limiting intergenerational communication (Renzanho et al. 2011). This has not been explored in relation to the communication of flood experiences and transfer of risk perceptions across migrant ethnic minority group generations. Furthermore, the acculturation gap may be important in influencing how second generation migrants respond to the knowledge they receive and whether they act upon it (Nayar & Sandhu, 2006, McFadden et al. 2014), but this has not specifically been related to the response of migrant generations to flood experiences and indigenous knowledge.

This research aimed to address these gaps in the literature and explored how previous flood experience abroad affected migrant ethnic minority group's risk perceptions and response to flood risk in England. This was understood through the 'Affect' heuristic theory within the heuristics and judgement approach to understanding risk perception (Finucane et al. 2000a) and the Protective Motivation Theory (PMT) (Grothmann & Reusswig, 2006) to examine how previous experience may lead to response. The research also explored whether there was gendered and intergenerational communication of these flood risk perceptions as well as

communication of indigenous flood knowledge and if this affected the response of subsequent migrant generations to flood risk. This was understood in the context of social communication through the social network contagion theory (Scherer & Cho, 2003). The role of the acculturation gap as part of acculturation theory (Berry, 1997) and bargaining power within bargaining theory (Agarwal, 1997) was also explored in relation to limiting intergenerational communication and influencing the actions of second generation migrants.

This research effectively explored how the different aspects of an individual's identity such as being a migrant, being a migrant generation and their gender influenced their understanding of and response to flood risk and knowledge in England. Thus the research explored how flood risk is understood, communicated and acted upon through an intersectional lens. This has not been previously studied in this context, thus this research will contribute to our understanding of flood risk as well as providing a greater insight into perceptions of risk amongst South Asian and particularly Pakistani migrants. This is important in the context of increasing flood risk and migrant numbers.

The research was based in England and in order to address the research questions, there was a need to focus on a specific sample in detail, namely migrant groups and generations within flood prone areas. There is no existing database with these combined aspects that would provide this information. Thus a mixed methods approach was used to locate migrant groups in flood prone locations in England. The two study locations selected were Perry Barr in Birmingham and Ravensthorpe in Dewsbury, and the study focussed on the South Asian and particularly Pakistani migrants, allowing an in-depth study of these migrant communities.

This research was jointly funded by Middlesex University and the Environment Agency. The research originally focused on locating diverse migrant ethnic minority groups and exploring their response to flood warnings. A separate report was written for the Environment Agency on recommendations for targeting flood warnings to migrant ethnic minority groups. This thesis focuses on the contribution to knowledge relating to perceptions of risk and the response to flood risk (Section 1.3). It applied an intersectional lens, focusing on three aspects that are still under researched, South Asian migrants, different generations within the same family, and gender. How they intersect in the flood risk context will provide a new insight into the complexity of how flood risk and knowledge may be constructed and transmitted.

It must also be clarified that this thesis is not about migration or theories of migration. It does not focus on why migrants may have migrated to England or how this may be related to issues in their country of origin. There is a focus on migrants rather than ethnic groups because there is an interest in inter-generational communication. This thesis is about the different generations of an ethnic group, namely South Asian and particularly Pakistani

migrants, that have migrated to England, and how they communicate within the family, with a particular focus on the generational and gendered aspects of communication, and how this relates to how flooding is understood in the UK context.

Furthermore, while this thesis is informed by various theories of communication it does not have one theoretical framework within which it will be working and nor does it attempt to generate new theory. The different communication theories will be used to frame the research findings and discussion. This thesis seeks to contribute to conceptualisations of flood risk, to contribute to how it is understood, communicated and acted upon. In exploring this through an intersectional lens, it will help build a better understanding of how the different aspects of an individual's identity influence these understandings and the complexity involved in the construction and transmission of flood risk and knowledge among South Asian migrants.

The research aim and objectives are outlined in Section 1.2.

## **1.2 Aim and objectives**

### **Aim**

To explore whether there is intergenerational and gendered transmission of flood risk perceptions and knowledge based on communication of previous flood experiences abroad amongst migrants to England.

### **Objectives**

1. To better understand how previous flood experiences in England and abroad affect perceptions of flood risk amongst migrants in England.
2. To explore the gendered and intergenerational communication of previous flood experiences amongst South Asian migrants in England and whether this affects the risk perceptions and response to flood risk of second generation migrants.
3. To determine whether communication of previous flood experience involves an intergenerational transfer of indigenous flood knowledge and how this may affect response to flood risk.
4. To identify whether an acculturation gap affects intergenerational communication and how second generation migrants may respond to and act upon the knowledge they receive.

### 1.3 The research journey

It has been mentioned that this research was partly funded by the Environment Agency, and this meant that the journey undertaken to conduct this research was not a straightforward process as both the Agency requirements and the need for an academic contribution to knowledge had to be met. A separate report was written for the Environment Agency, which focuses on the original research objectives which related to diverse migrant ethnic minority groups, flood risk perceptions, intergenerational communication and flood warning response. To this end interviews were conducted with different ethnic groups, however, it is only those with South Asian migrants that form the basis of this thesis. Similarly, the Environment Agency was particularly interested in the quantitative component of the research while the main academic contribution lay with the qualitative component – which is the focus of this thesis. However, the central focus of the thesis, including the group being researched was refined as initial data collected was analysed, and came to focus on South Asian and particularly Pakistani migrants and their perceptions of risk and response to flood risk. As the research developed, gender emerged as an important theme and this, coupled with the generational approach initially adopted provided an intersectional approach to analysis.

The following section attempts to explain the research journey and the decisions made in the research process, to provide the reader with a better understanding of how the thesis began and importantly how it evolved, as well as the relationship between the research methodology and the focus of this thesis. It is written in the first person.

I have always had an interest in the physical environment and particularly enjoyed studying geography at school and university, where my interest in the subject of flooding was piqued. I was fascinated by the process of flooding, the different types of floods and how destructive they could be. I have never been flooded myself and became interested in the human aspect of flooding; responding to flood risk and understanding why people respond in different ways. This interest provided the foundations for my PhD research as I knew I wanted to focus on flood warning and response.

As the Environment Agency partly funded my research, they influenced the direction of my work; they were particularly interested in flood warnings and vulnerable groups to flooding and encouraged me to research amongst those particular groups. In the process of wider reading I came across research by Robertson (2004) who spoke about ethnic minority groups including Hindus, Sikhs and Bangladeshi Muslims who had certain flood risk perceptions in England based on their flood experiences in their country of origin and this influenced how they responded to information about flooding. I was immediately intrigued by this research which mentioned ‘country of origin’ because I come from a migrant family; both my maternal and paternal grandparents were ‘double migrants’: they were born in India and then



migrated to East Africa, Kenya where my parents were born before both families eventually migrated to England in the 1980s. Living in a migrant household I have been brought up with stories about ‘back home’ and have witnessed my elders follow similar practices to what they did in India and Kenya. I had never considered that ideologies from ‘back home’ could be applied to how individuals understand flood risk, and wanted to explore this further amongst migrant ethnic minority groups in terms of whether their experiences abroad actually influenced their flood risk perceptions and subsequent response to flood warnings in England.

I then thought about the issue further and realised that whether consciously or subconsciously, as a second generation migrant in a traditional Sikh family, I follow the advice and behaviour of my elders which in many cases is seen to be a continuation of practices from ‘back home’ such as cooking, religious and cultural practices, and maintaining family relationships. I have a family background where elders are seen as the head of the household and have an influential role in raising children. These relationships with elders essentially lead to the communication of knowledge, traditions, teachings, values and experiences across generations. Ultimately this has influenced my beliefs, in that I feel it is inherently important to gain knowledge from elders and apply that knowledge to life.

Effectively my upbringing influenced the ‘intergenerational’ focus of my study, as the importance of intergenerational communication was applied to hearing about flood experiences and learning from past events. I realised that if my family members can influence my actions and behaviour in daily life, then there may be potential for the flood risk perceptions of first generation migrants to be communicated to their children, either through storytelling of their past experiences or their behaviour during a flood event in England. This communication may influence the flood risk perceptions of second generation migrants in England and their response to flood warnings. Intergenerational communication may also involve advice in the form of indigenous knowledge from abroad being applied to manage flood risk in England. These issues had not been explored in existing literature and I believed it was important to address this gap as the research would add to flood risk knowledge and provide a better understanding of the response to flood warnings amongst generations of migrant ethnic minority groups.

My research was of interest to the Environment Agency because it focused on a group vulnerable to flooding and there was little existing research on ethnicity and flood warning in the UK, especially in relation to warning dissemination (Fielding et al. 2007). The research would provide a greater understanding of how generations of migrant ethnic minority groups perceive flood risk and respond to it and how this relates to previous flood experience abroad. The Environment Agency were particularly interested in how the

research findings could be used to increase awareness of flood risk and encourage take up of their flood warning service, as well as how the flood warning service could be better targeted amongst migrant ethnic minority groups. They wanted the research to be conducted amongst diverse migrant ethnic minority groups in order to have a better idea of how different groups could be targeted, and as there is no existing database on the location of migrants in England, the Environment Agency required that one of the objectives of the research be to create a tool for locating and engaging with migrant groups, especially as they had difficulty in accessing ethnic minority communities. The tool would need to be a suitable approach to locating migrants in different parts of the country. Thus the initial focus of the research was not specifically on South Asian migrants or gender, but aimed to research amongst different generations of diverse migrant ethnic minority groups in two flood prone study locations, providing a comparative between ethnic groups.

The first part of the research process involved designing the tool to locate migrant ethnic minority groups in order to research amongst them. The research focused on established migrant communities and not recently arrived migrants because of the need to research amongst different migrant generations. Research was conducted to identify the existing sources of migrant data and the census was found to be most suitable data source as it had a question relating to 'Country of birth'. It is recognised that the most recent census was conducted in 2011 with the results being available in 2013, but at the time of data collection for this research (2011), the most recent data available was from the 2001 census, and this was used to find the research sample as part of the methodology.

I attempted to map the 2001 'Country of birth' data with data on flood warning areas to identify which flood prone areas had the highest number of individuals not born in the UK. However, because the data from each country of birth was mapped together, the data was simply overlaid and resulted in a map of England covered in black dots because there was too much data for it to be comprehensible. I decided I would map the data for each country of birth separately, aiming to have several different maps, to see if this would provide a clearer picture of where different migrant ethnic minority communities were located in England. I began with Indian migrants because being of Indian origin myself I wanted to see if the data produced differed from my knowledge of where Indian communities are located in England. This map was effectively useless because the wide distribution of Indian migrants in England meant it was inconclusive in terms of identifying potential research areas, and I realised it was futile to continue mapping the country of birth data in this way.

Therefore, I decided that I would identify flood prone locations which had flooded during the last major flood event at the time (2007) and used the 2001 census data to identify which of these locations had high migrant numbers in general based on individuals 'not born in the

UK'. Contact was made with key stakeholders at the local level to determine the exact flood prone areas within the locations, and the ethnic diversity in those areas to determine the feasibility of conducting the research. The 2001 census data was used to identify the ethnic diversity in the flood prone areas and on the basis of the diverse ethnic groups indicated in the data, the two study locations of Perry Barr and Ravensthorpe were selected (Chapter 3). I thought it was important to discuss this methodological process in this thesis because it tells the story of how I found my research sample and actually how this process didn't lead to the diverse groups I was expecting.

A mixed methods research approach was subsequently applied to locate the migrant ethnic minority groups in the flood prone community in each location and recruit them for the research. Door to door questionnaire surveys were conducted in July 2011 to capture the key characteristics of the household and included more substantive questions about the research, which would provide an indication of issues to be addressed in the main qualitative research consisting of one to one interviews conducted in March 2012. I decided I wanted to conduct interviews because I was interested in meaning and understanding the experiences of individuals which I felt could not be adequately explored with quantitative data.

The quantitative data was analysed and it was found that in both research areas, there was greater ethnic diversity than expected, but the number of individuals from each ethnic group was low. Pakistani migrants represented the highest proportion of migrants who completed the questionnaire in both study locations. This was a consequence of the change in the population makeup in the areas since the 2001 census to when the questionnaire surveys were conducted in 2011, highlighting a limitation of the research methodology.

The sample for the qualitative research came from the quantitative data as every individual who completed the survey was asked if they were willing to participate in the one to one interviews. As the focus at this point was still on researching amongst diverse migrant ethnic minority groups, all willing participants were interviewed and included Pakistani, British, Indian, Caribbean, African, Bangladeshi, Ethiopian, Irish, Jamaican and Kashmiri participants. British non migrants were also included in the one to one interviews as a control group if required. Nevertheless, it appeared that despite the attempts for ethnic diversity in the research sample, the majority of participants were of Pakistani, Indian, Kashmiri and Bangladeshi origin, and this indicated that the one to one interviews were conducted amongst mainly South Asian migrants. Ultimately the research had been conducted amongst a cross section of the South Asian community within the flood prone community in each study location. Pakistani migrants still composed the largest proportion of this group. It is also acknowledged that my ethnicity and being accompanied by a female

family member into the field may have influenced the research sample to include more South Asian migrants and more migrant women (Chapter 4).

It was important to complete the requirements for the Environment Agency and thus prior to the analysis of the qualitative data, the report for the Agency was prepared and submitted in 2013. Government organisations such as the Environment Agency work within a positivist paradigm and therefore they embrace quantitative data, which was the focus of the report. The report discussed the successful design of a tool to locate and engage with migrant groups. This led to recommendations relating to the use of census and flood warning data combined with local stakeholder knowledge to locate migrant groups, as well as using existing organisations in the community to increase trust, visibility and familiarity to encourage access to and engagement with the migrant ethnic minority communities. The report discussed the key quantitative data relating to awareness of flood risk and the flood warning service amongst migrants and non migrants and migrant generations in both study locations, and the influence of previous flood experience and intergenerational communication about flood experiences on flood risk perceptions. It recommended a national policy to target migrant groups, which was to focus on migrant groups at the local level as migrant communities are not homogenous, and this should involve community level engagement approaches to increase awareness of flood risk and the flood warning service. The report highlighted that the main migrant group researched in both study locations was Pakistani migrants and that the recommendations throughout the report were most relevant to them, but may also be relevant to a certain extent to the other migrant groups researched.

I then began to analyse my qualitative data and explored how previous flood experience abroad influenced the flood risk perceptions and response to flood risk in England amongst first generation migrants in the research. At the beginning of the research I was looking to provide a comparative by researching amongst diverse migrant ethnic minority groups and this is reflected in my attempts to locate diverse migrant communities and why I interviewed all willing participants from different ethnic minority groups. It was only during the process of analysis that the research shifted to South Asian migrants because they were the largest group of participants and their stories emerged as a stronger theme, with gender emerging as a key issue and subsequently adding a third dimension to the intersectional lens that had previously focused only on migrants and generations.

I realised that talking about flooding with participants had revealed wider notions of risk specifically amongst South Asian migrants and identified issues in the home relating to intergenerational relationships and communication, patriarchal control, conflict and gender norms which I was not expecting to investigate. These issues were important and shaped the thesis because they in turn provided greater insight into how flood risk was understood,

highlighted new issues around intergenerational communication of flood risk and knowledge, and importantly revealed how individuals could and could not respond to flood risk in general based on gender norms. At this stage, I realised that the focus of the thesis had shifted; the contribution to knowledge was not about how migrant groups and generations respond to flood warnings but had a wider implication in terms of how they understand and communicate around risk and their response to flood risk in general. The research inadvertently explored risk through an intersectional lens, focusing on South Asian migrants, generations and gender, and this revealed the complexity in how flood risk and knowledge may be constructed and transmitted, which is the focus of this thesis. Therefore the research contributes to the risk perception literature.

As these issues were revealed amongst the different South Asian migrants interviewed, they became the focus of this thesis, with the data from Perry Barr and Ravensthorpe being combined. It has to be acknowledged that the research does not focus on all South Asian migrants, only those that participated in the research and more importantly, of the South Asian migrants, (Mirpuri) Pakistani migrants were the largest group interviewed (76%) (Indian (17%), Kashmiri (5%), Bangladeshi (2%)), and thus the research findings mainly relate to them as a group. The voices of the diverse migrant ethnic minority groups in the research are also present to some extent in relation to the discussion around previous flood experiences abroad and their flood risk perceptions in England (Chapter 5).

Furthermore, in terms of the quantitative and qualitative data, the quantitative data was used for the report to the Environment Agency, but the qualitative data provides the main focus of this thesis. This is not due to an epistemological issue; I am not a positivist, I come from an interpretivist social scientist background, but that does not mean I have an issue with quantitative data and thus have not included it in this thesis. I accept quantitative research methods as well as triangulation and mixed methods research. However, in this research the main purpose of the quantitative data was as a stepping stone to locate and recruit the sample for the interviews and inform the qualitative research in terms of providing a wider perspective of issues to be explored. Therefore the quantitative data is not central to the analysis and thus has not been included in the main thesis, but the key findings have been included in the thesis appendix.

The methodology for this research may be seen as a messy process with unnecessary data collected, but this was because the research initially aimed to explore and compare specific issues amongst a diverse sample, but evolved to focus on wider issues amongst a specific sample. Nevertheless, I think it is important to understand the origins of the research; it was through this roundabout data collection process that the research was conducted and the

contribution to knowledge and focus of this thesis emerged and therefore it is why I have discussed the research methodology in detail in this thesis.

#### **1.4 Thesis outline**

Chapter 1 of this thesis provides an overview of the research context and aim and objectives. This is followed by the literature review in Chapter 2. Chapter 3 discusses the methodology applied to locate migrant groups and provides an overview of the study locations. The mixed method research methodology is discussed in Chapter 4. Chapter 5 discusses the results of the research relating to the flood risk perceptions of migrant ethnic minority groups in the study locations. Chapter 6 discusses the wider notions of risk amongst South Asian migrants and the subsequent issues related to intergenerational communication. Chapter 7 explores whether there is communication of flood risk perceptions and indigenous knowledge across migrant generations, whilst Chapter 8 discusses the gendered response to flood risk. The results of the research are discussed in relation to the contribution to knowledge and implications for further research in the conclusion in Chapter 9.

# Chapter 2: Literature Review

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## 2.1 Introduction

This chapter discusses the focus of this research in the context of academic literature. Flooding is discussed in the context of risk, the increased flood risk in England and flood risk management approaches. Ethnic minority groups in England are a vulnerable group to flooding and migration may increase the number of people vulnerable to flooding. This chapter will highlight the gap in the literature relating to migrant ethnic minority groups, their flood risk perceptions and response to flood risk. It will discuss the risk perception paradigms and how previous flood experience can increase or decrease risk perceptions. It will also discuss the intergenerational transmission of risk perceptions between migrant generations and how this has not been related to the communication of flood risk perceptions and indigenous knowledge based on flood experience abroad. This will be discussed in relation to social networks that may facilitate this communication, as well as the gender norms within ethnic minority households which may facilitate the gendered impact of and response to flooding. There will also be a focus on how an acculturation gap may limit intergenerational communication and influence response to knowledge received. This chapter will discuss the different theories that may be relevant in understanding these issues, identifying which theories are most appropriate and will be taken forward to frame the thesis and understand the research findings.

This chapter will highlight how these studies are relevant for the study of flood risk and migrant ethnic minority groups, but have not been explored in this context. Therefore, this research will attempt to fill these gaps in the literature and contribute to knowledge by providing greater understanding of flood risk and new insights into perceptions of risk through an intersectional lens looking at migrants, migrant generations and gender.

## 2.2 Flood risk

This section will discuss the flood hazard paradigms, the growing concern about flooding due to climate change, the increased risk of flooding in the UK and the management of flood risk in relation to the Environment Agency. There will also be an overview of groups vulnerable to flooding, with a particular focus on migrant ethnic minority groups.

### 2.2.1 Flood hazard paradigms

Flooding is based within a risk framework relating to hazards and disaster management. 'Risk' is defined as the "probability of hazard occurrence" with hazard being "a potential

threat to humans and their welfare” (Smith, 1992:6). Flooding may be described as an environmental hazard; “a potential threat to humans and their welfare arising from a dangerous phenomenon that may cause loss of life, injury, property damage and other community losses” (Smith, 2013:11). The focus of this research is on natural flooding and not mains flooding or flooding as a result of burst pipes.

In the past, environmental hazards were approached from a ‘naturalist’ view where the focus was on the violent forces of nature (Wisner et al. 2004:10, Fordham et al. 2013), with natural hazards being seen as ‘Acts of God’ (Smith, 2011). Over the twentieth century, two main paradigms evolved relating to how a flood hazard is created; the Behavioural and Structural paradigms. The Behavioural paradigm originated from White (1945), who recognised the role of the victim and argued that “floods are ‘acts of God’ but flood losses are largely acts of man” (White, 1945:7). Hazards were not physical phenomena outside of society, but were linked to decisions to settle on hazard prone land. White (1945) believed over reliance on structural measures led to increased, not decreased flood damage because the public had confidence in structural works and increased occupancy of floodplain buildings. This misperception of risk meant flooding was worse when defences failed and led to catastrophic losses in over-developed floodplains.

The Structural paradigm emerged in the 1970s and was contrary to the Behavioural paradigm as it drew on experiences within less developed countries, shifting from a hazard to a disaster based viewpoint. It placed societal conditions at the centre of describing and interpreting disaster; “disasters are not the inevitable outcome of a hazard’s impact; instead they are the results of the intersection between hazards and everyday vulnerabilities” (Flint & Luloff, 2005:401). Hence natural hazards are not solely dependent on geophysical processes but human vulnerability has to be accounted for; a hazard is “the potential for damage that exists only in the presence of a vulnerable human community” (Hewitt, 1983:5). Therefore, both paradigms conceded that disasters occur when a hazard and a vulnerable population interact, yet they “disagreed over the extent to which a disaster is determined by the severity of the hazard or the vulnerability of the population” (Prowse & Scott, 2008: 42). The Behavioural paradigm argued that the severity of the hazard is more important while the Structural paradigm placed greater emphasis on the vulnerability of the population.

The Structural paradigm is closely associated with the research of Wisner et al. (2004) who stated that certain groups are more vulnerable to loss from hazards. Vulnerability is defined as “the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard” (Blaikie et al. 1994:9). Vulnerability to disasters is seen to be socially constructed (Fordham et al. 2013); “the degree to which



people are vulnerable to natural disasters is not dependent on proximity to the source of threat; even though many people may experience the same flood, in the same area and at the same time, their perceived and actual levels of suffering are likely to differ greatly” (Cutter et al. 2000, Thrush et al. 2005a:3). Variables increasing vulnerability include “class, occupation, age, gender, ethnicity, disability, immigration and health status, and the extent of social networks” (Wisner et al. 2004:11, Fordham et al. 2013). Wisner et al (2004) argued that risk is a combination of vulnerability and hazard and when both are combined, disasters are produced ( $R = H \times V$ ).

A disaster occurs when “a significant number of vulnerable people experience a hazard and suffer severe damage and/or disruption of their livelihood system in a way that recovery is unlikely without external aid” (Wisner et al. 2004:51). The risk of disaster is a “function of the natural hazard and the number of people characterised by varying degrees of vulnerability to that specific hazard, who occupy the space and time of exposure to the hazard event” (Wisner et al. 2004:49). The ‘pressure and release model’ explains how disasters occur through a casual chain when hazards affect vulnerable people (Figure 2.0).

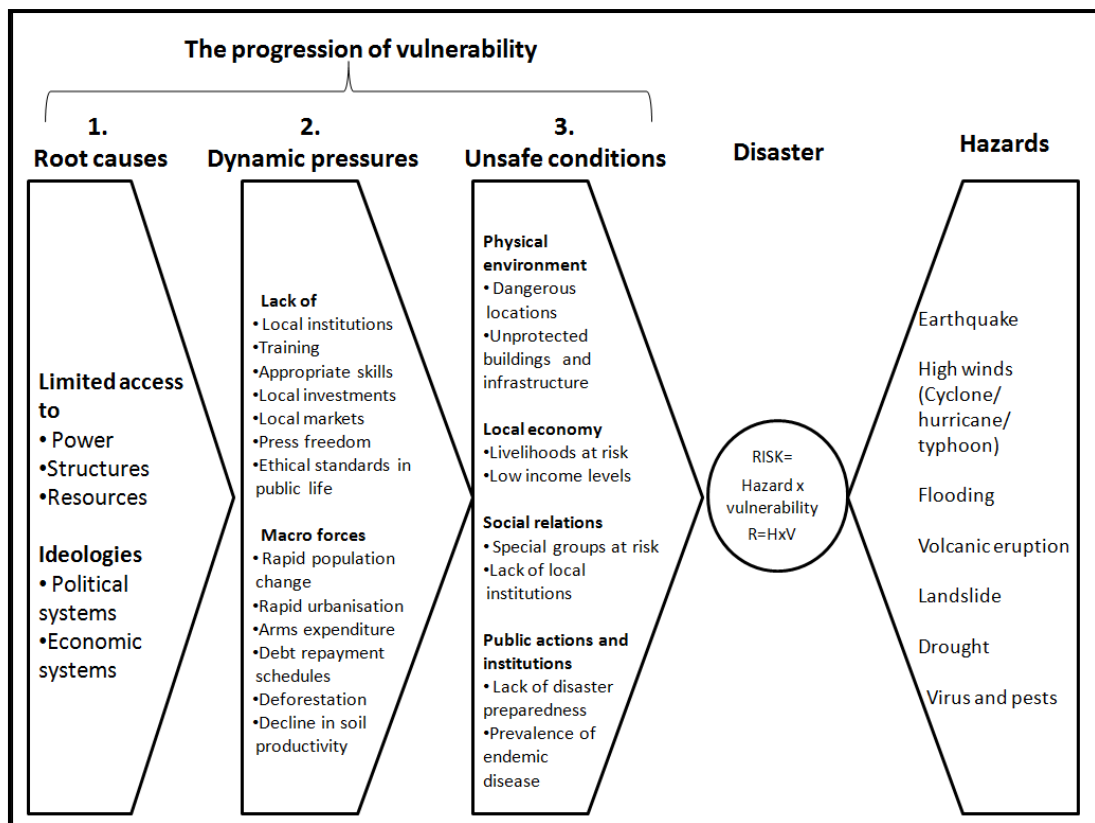


Figure 2.0 Pressure and release model: the progression of vulnerability (Root causes, dynamic pressures and unsafe conditions) based on Wisner et al. (2004)

It is recognised that identification of these vulnerable groups was based in the less developed world. Research in developed countries has indicated that there are certain hazard vulnerable groups in the population that are common in both developed and developing countries. This

includes variables such as ethnicity, age, gender and social factors affecting vulnerability (Tapsell et al. 2002, Tunstall et al. 2006). In the context of this research, ethnic minority groups as a group vulnerable to flooding is discussed further in Section 2.2.5

Thus, the hazards literature has evolved over time, and risk may be seen as the “intersection between a hazard, the exposure of people and the vulnerability of the people that are exposed” (Birkholz et al. 2014:13). It is recognised that there are many definitions of risk and this breakdown of the three elements of risk (hazard, exposure and vulnerability) is one approach to understanding risk.

### **2.2.2 Climate change**

In recent years flood risk has become a growing concern due to anthropological climate change. The Intergovernmental Panel on Climate Change (IPCC) highlighted the likelihood of anthropogenic influence on increased greenhouse gases and the subsequent warming of the earth (Le Treut et al. 2007). There is evidence that the Earth’s climate is changing across the planet (IPCC, 2013). Indicators of climate change include changes in surface temperature, atmospheric water vapour, precipitation, severe events, glaciers, ice and sea level (Cubasch et al. 2013).

Importantly, reports suggest that climate change has the potential to affect future flooding. In a warmer future climate, there will be increased risk of more frequent, more intense and longer lasting heat waves. Summer dryness would indicate drought, but increased water vapour due to a warmer atmosphere indicates that there would be increased chance of intense precipitation and flooding. “This has already been observed and is projected to continue because in a warmer world, precipitation tends to be concentrated into more intense events, with longer periods of little precipitation in between” (Meehl et al. 2007). Additionally, an increase in the likelihood of very wet winters is projected due to an increase in intense precipitation during storm events. This suggests that there would be an increased chance of flooding over Europe due to more intense rainfall and snowfall events producing more runoff (Meehl et al. 2007, Bates et al. 2008).

There is a degree of uncertainty in estimates of future changes in flood risk based on the different climate models used. This is because there is difficulty in “defining credible scenarios for change in the large rainfall (or snowmelt) events that trigger flooding. Global climate models cannot simulate with accuracy short duration, high intensity, localised heavy rainfall” (Compagnucci et al. 2007). These findings highlight that as climate change continues, and there are further impacts to the hydrological cycle, flood trends will be affected. The uncertainty lies in how they will be affected.

### **2.2.3 The increased risk of flooding**

The future flood risk in the UK was examined in the ‘Foresight Future Flooding’ study. The study provided visions of flood risk in the UK over a 30-100 year timescale based on four different future scenarios, including emissions scenarios.

The report highlighted that under every scenario of greenhouse gas emissions, annual flooding losses would increase by the 2080s, with precipitation increasing risks across the country by 2-4 times and increased sea level rise increasing the risk of coastal flooding by 4-10 times (Evans et al. 2004a). Alongside flooding from rivers and coasts there would be localised flooding caused by sewer and drainage systems being overwhelmed by sudden localised downpours. Thus the number of properties at high risk of localised flooding could increase fourfold under future scenarios leading to an increase in annual damages (Evans et al. 2004a). Subsequently the number of people at high risk from river and coastal flooding is projected to increase from 1.6 million in 2004 to between 2.3 and 3.6 million by the 2080s. Thus the Foresight Report highlighted that climate change would have an impact on future flood risk in the UK and would not only impact the number of people at risk but also increase the cost of flood damages.

The 2008 National Assessment of Flood Risk focused specifically on England and highlighted that there are 2.4 properties at risk of flooding from rivers and the sea in England and a further 2.8 million properties susceptible to surface water flooding. In total 5.2 million properties in England are at risk of flooding. The report stated “it is likely that with climate change (which could lead to increased rainfall, river flows, and higher coastal storm surges) and development pressures, flood risk in England is going to increase in the future, with the most significant changes likely to happen in the latter half of the century” (EA, 2009:6).

The projected increase in flood risk to people and properties and increase in flood costs may already be evident based on the increased number of widespread severe flood events in recent years. The most common causes of floods in England are river, coastal, surface water, sewer and groundwater flooding (EA, 2009). River flooding occurs when a river cannot cope with the water draining into it, such as with heavy rainfall falling on saturated catchments. Coastal flooding occurs when high tides combine with stormy conditions. Surface water flooding occurs when heavy rainfall overwhelms the drainage capacity of the local area. Sewer flooding occurs when sewers are overwhelmed with heavy rainfall, and groundwater flooding occurs when water levels in the ground rise above surface levels (EA, 2009).

In 1998, there was severe flooding in the Midlands during the Easter weekend as a result of prolonged and intense rainfall on saturated ground which caused rivers to rise at record rates. 4500 families lost their homes and there was severe disruption to lives and livelihoods (Bye & Horner, 1998:34). Intensive nationwide flooding occurred again in October and

November 2000, with 10,000 properties affected, disruption to services and insurance losses running into the billions. Severe flooding was seen in the summer of 2007 in the northeast and central England and parts of Wales and Scotland. The summer was the wettest summer in England and Wales since records began in 1766 (Pitt, 2008: ix). The frequency and spatial extent of the heavy rainfall led to multiple flooding events ranging from small localised flash floods to widespread events. 55,000 properties were flooded and 13 people died as a result of the flooding and high winds. The flooding led to the largest loss of essential services since the second world war, 60,000 insurance claims and total insured losses over £3 billion (Pitt, 2008: ix).

The Pitt Review was commissioned to undertake a review of the lessons learnt from the summer 2007 floods. The report stated that there was uncertainty over whether the flooding was related to climate change, “but we do know that events of this kind are expected to become more frequent” (Pitt, 2008:xi). The Pitt Review updated the ‘Foresight Future Flooding’ report, highlighting that new data suggested the potential increases in total rainfall intensity and temperature were higher than estimated in 2004. This indicated higher future increases in flood risk (Evans et al. 2008:12). Thus “climate change has the potential to cause even more extreme scenarios than were previously considered possible...the potential increases in rainfall volume and intensity, and temperature are greater, and there is a greater risk of extreme sea level rise” and surface water flooding (Pitt, 2008:xi, EA, 2013b:11).

This was supported by further flooding in November 2012 when a sequence of heavy rainfall events led to the wettest weeks in England in the last 50 years, resulting in widespread flooding across the UK (Metoffice, n.d). Flooding occurred again from December 2013 to February 2014 when extreme weather conditions caused by a succession of major winter storms led to widespread impacts. The UK experienced 486.8mm of rainfall from December 2013 to February 2014, making it the wettest winter in 250 years (EA, 2014b). There was flooding across eastern and southern England due to high storm surges, affecting 1400 properties and 6,800 hectares (CEH, 2014). Heavy rainfall led to flooding across southern England. 50,000 homes were left without power and there was disruption to travel services as train lines were washed away.

Records were broken yet again in December 2015, which became the wettest month ever recorded in the UK (Carrington, 2016). There were exceptionally wet and windy conditions as storms Desmond, Eva and Frank brought record breaking rainfall over Scotland, Wales and Northern England. This ‘unprecedented’ rainfall resulted in severe flooding in Cumbria over much of December, which became widespread across North Wales, northern England including Lancashire, Greater Manchester, West and North Yorkshire and Scotland after Christmas and into the new year (Metoffice, 2016). Thousands of people were evacuated

from their homes with the help of the army, with 9,000 properties flooded in Yorkshire and Lancashire and 7,000 properties flooded in Cumbria, leading to approximately 16,000 homes being flooded across England (BBC, 2016). “Tens of thousands of properties were also left without power, dozens of schools were closed, about 40 bridges were either damaged or shut, and rail links were severely disrupted” (BBC, 2015).

In recent years there have been several extreme flood events in England. As discussed in the Foresight Future Flooding report, the number of people affected and the cost of damages has increased as the flood events appear to increase in both frequency and magnitude. Specific flood events have been linked directly to anthropogenic climate change whilst for others it is recognised that with climate change there will be an increase in future extreme flood events of this kind (Pitt, 2008). Therefore flooding is a serious current and future threat affecting millions of residents in the UK (EA, 2009).

#### **2.2.4 The management of flood risk**

The Environment Agency (EA) is the principal flood risk management operating authority in England. Flood risk management involves reducing the likelihood of flooding through the management of land and river systems. The department for environment, food and rural affairs (DEFRA) has overall national responsibility for policy on flood and coastal erosion management. It provides funding for flood risk management authorities through grants to the Environment Agency and local authorities (Defra, 2014).

The Environment Agency is legally responsible for taking a strategic overview of the management of all sources of flooding and coastal erosion. It has operational responsibility for managing the risk of flooding from main rivers, reservoirs, estuaries and the sea (EA, n.d). Lead local flood authorities are responsible for managing the risk of flooding from surface water, groundwater and ordinary watercourses and take the lead on community recovery.

The prospect of climate change leading to potential changes in future flood risk (IPCC, 2007, Evans et al. 2004a, 2004b), the Foresight study, as well as the recent extreme flood events have led to a paradigm shift in flood risk management (McCarthy, 2007). Earlier flood management policies focused on the role of the government as opposed to the individual. There was a reliance on flood defences consisting of structural hard engineering from the 1950s until the 1970s (Tunstall et al. 2004). The 1980/90s saw a shift towards urban structural flood defence measures to protect and defend people and properties from flooding. The aim of the defences was to ‘keep water out’ (Johnson & Priest, 2008:515).

In 2004, the Foresight Future flooding study highlighted that “if current flood management policies remain unchanged, the risk of flooding and coastal erosion will increase greatly over

the next 30 to 100 years” (Evans et al. 2004a:37). The report stated that integrated flood risk management must be at the core of response to changing drivers of flooding. The government developed a new 20 year strategy entitled ‘Making Space for Water’ in 2005 for flood and coastal erosion risk management in England. Instead of ‘keeping water out’ the 2005 governmental policy focused on ‘making space for water’. It was acknowledged that flooding is an increasing problem, but “floods are a part of nature. It is not technically feasible nor economically affordable to prevent all properties from flooding” (EA, 2009:7). The Environment Agency therefore aimed to reduce the likelihood of flooding and the impact of flooding when it occurs. The strategy recognised that although flood defences provide protection they can be breached or overtopped (Defra, 2005:37). Therefore, the ‘Making Space for Water’ strategy identified a flood warning system as a necessary component of flood defence.

A flood warning is “a risk communication effort that addresses the imminent threat of an extreme event” (Lindell & Perry, 2004:3). The flood warning provides warning of conditions that are likely to cause flooding to property and potential risk to life (Fernandez-Bilbao & Twigger-Ross, 2009:3). The warning should allow adverse impacts to be reduced including physical and psychological health impacts of flooding (Parker et al. 2005, Tapsell & Tunstall, 2000, 2001). The primary purpose of the flood warning is to save life by allowing individuals the opportunity to prepare for flooding (Phillips & Hearn Morrow, 2007). The secondary purpose is to reduce the damage caused by flooding (Parker et al. 2007b, 2009). This includes moving valuables and property to a safer location and putting measures in place to prevent floodwaters entering the property, such as floodboards or sandbags (Fernandez-Bilbao & Twigger-Ross, 2009:3).

The Environment Agency launched an updated ‘multimedia warning dissemination service’ called ‘Floodline Warnings Direct’ (FWD) in 2005 with an aim to disseminate warnings and information using a mixture of channel technologies in line with technological advances (Briscombe, 2005). FWD involves warnings being issued through email, SMS, pager, fax, mobile and telephone. Warnings are available in English and Welsh. Warning messages may also be issued by television, radio, and through the Environment Agency website. The warning service applies only to flooding from rivers and the sea, although some areas of the country provide a groundwater flood warning service.

In relation to institutional management and the social issues relating to dissemination, awareness and response to flood warnings, existing research has recognised that there is a dominant culture of physical science and technology in terms of staff background and skills at the Environment Agency (McCarthy, 2007). Parallels may be drawn with the developing world and the wider issues of disaster management within the hazards context. As Fordham

(2001) argues, hazards have traditionally been explored from scientific, technical and engineering approaches. Flood hazards have been examined in terms of meteorology and hydrology, with mitigation traditionally involving engineering solutions. Flood warning systems have also traditionally focused on forecasting rather than dissemination; the social context for flood warnings such as gender dimensions has only recently appeared on the hazards agenda. Importantly, forecasting and warning professionals would see the social context of warnings as “largely irrelevant and outside their sphere of influence or capability” as “experts (mostly male) dominate this field and little attention is given to the role of NGOs” (Fordham, 2001:4). This indicates a gendered, top down approach to institutional management and flood risk communication in the developing world and as Fordham (2001), states, this picture is unlikely to be different elsewhere. Yet it has been acknowledged that within the Environment Agency, research “has, and is being undertaken to address the imbalance in related social science knowledge. Programmes are in progress to attain a greater understanding of the social aspects of dissemination, awareness and response in the communication of flood risk to their ‘customers’” (McCarthy, 2007:132).

Furthermore, the Environment Agency has highlighted that an integrated approach to flood detection and forecasting will help to ensure that flood warnings are issued in good time to minimise the potential loss of life, damage to property and infrastructure. Yet an important aspect of managing flood risk is ensuring an effective response to incidents when they do happen. Therefore the Environment Agency suggests that “local flood risk management strategies should place a high priority on supporting communities and individuals in the event of floods” (EA, 2011a:27). They encourage local involvement through the formation of local flood action groups with whom partner organisations can work with to plan the response to flooding. These groups would also encourage volunteer community flood wardens who may be involved in putting flood protection measures in place, helping and advising vulnerable people and helping to move them to safety if required, informing the community of the situation and advising them to prepare by putting sandbags in place and moving valuables to safety (EA, 2012:13). The flood action groups would promote faster recovery from flooding (EA, 2011a).

### **2.2.5 Groups vulnerable to flooding**

The existing research highlighted that there are groups of people who are particularly vulnerable when faced with natural hazards such as flooding (Tunstall & Parker, 1999). The variables of age, gender, race and ethnicity, disability and illness, socioeconomic factors and special needs populations influence vulnerability to flood hazard (Thrush et al. 2005b). The focus of this research is on ethnic groups and in particular migrant ethnic minority groups. An ethnic group is a collectivity with “common ancestry, memories of a shared past, and a cultural focus which define the group’s identity, such as kinship, religion, language, shared territory, nationality or physical appearance” (Bulmer, 1996). ‘Ethnic’ therefore relates to the characteristic of a human group, having key certain features in common. This includes a shared history, a cultural tradition including social customs, a common geographical origin, and a common language (House of Lords, 1983).

‘Ethnic minority’ is used to describe people who “are in the minority within the defined population on the grounds of race, colour, culture, language or nationality” (RET, 2010). Therefore, ethnic minorities are groups with a particular race or nationality living in a country or area where most people are from a different race or nationality. Ethnic minority categories in Britain have been modified over time due to the changing nature of ethnic identification (ONS, 2003). The ethnic majority in Britain is seen to be White, of British origin and English speaking (ONS, 2003), but there may be particular areas where they are in the minority. This is because the UK population has become more multicultural and multiethnic due to increasing migration (Walker et al. 2009).

The existing research discussed how ethnic minority groups may be vulnerable to flood risk. Thrush et al. (2005b) explored vulnerability in three ways: In terms of certain groups being (1) more likely than others to be flooded, (2) less likely than others to be aware of flood warnings and (3) less able than others to respond to flood warnings. The results indicated that minority ethnic groups were vulnerable in terms of receiving warnings and responding to them especially where language was an issue. Disseminating warnings amongst ethnic minorities was difficult as literacy levels were low, and foreign language information was only delivered on request. Therefore, non English speakers may have been ignorant of its availability, and radio and television broadcasts were unlikely to reach all sections of the community. Thus a poor command of the English language may affect receipt, understanding and response to warnings alongside reliance on ethnic communities’ media channels, cultural and religious factors and lack of knowledge (Thrush et al. 2005b).

In terms of vulnerability to the flood event minority ethnic communities appeared to be isolated by language and cultural differences; “it is not the habit of this group to ask for outside help, partly for religious reasons, partly through lack of knowledge of the system,



and partly because there is a cultural preference for self reliance especially amongst the older generation” (Thrush et al. 2005b:11). Tapsell et al. (1999) explored how the impacts of flooding varied between different ethnic groups and found adverse affects were exacerbated by economic and language difficulties, with cultural systems affecting access to social support networks (Tapsell et al. 1999). The results of the research therefore indicated that members of minority ethnic groups were particularly vulnerable in terms of being likely to be flooded and awareness and ability to respond to flood warnings (Thrush et al. 2005b:27).

## 2.2.6 Migrant ethnic minority groups

These findings are important as the number of ethnic minority individuals is increasing through migration. A migrant is “any person who lives temporarily or permanently in a country where he or she was not born” (UNESCO, 2010). In the 1960s and 1970s more people emigrated from the UK than those arriving to live in the country. During 1975-1996, net migration averaged 7,000 per year. Since 1994, net migration has increased every year, and since 1997 the rate of net migration has accelerated sharply due to policy changes which made it easier to come to the UK (Home Office, 2014) (Figure 2.01). Recent figures indicate that net migration in the year to June 2015 reached 336,000 (ONS, 2014a, ONS, 2015). The 2011 census indicated that 13% (7.5 million) of the resident population of England and Wales was born outside the UK, compared to 4.5% (1.9 million) in 1951.

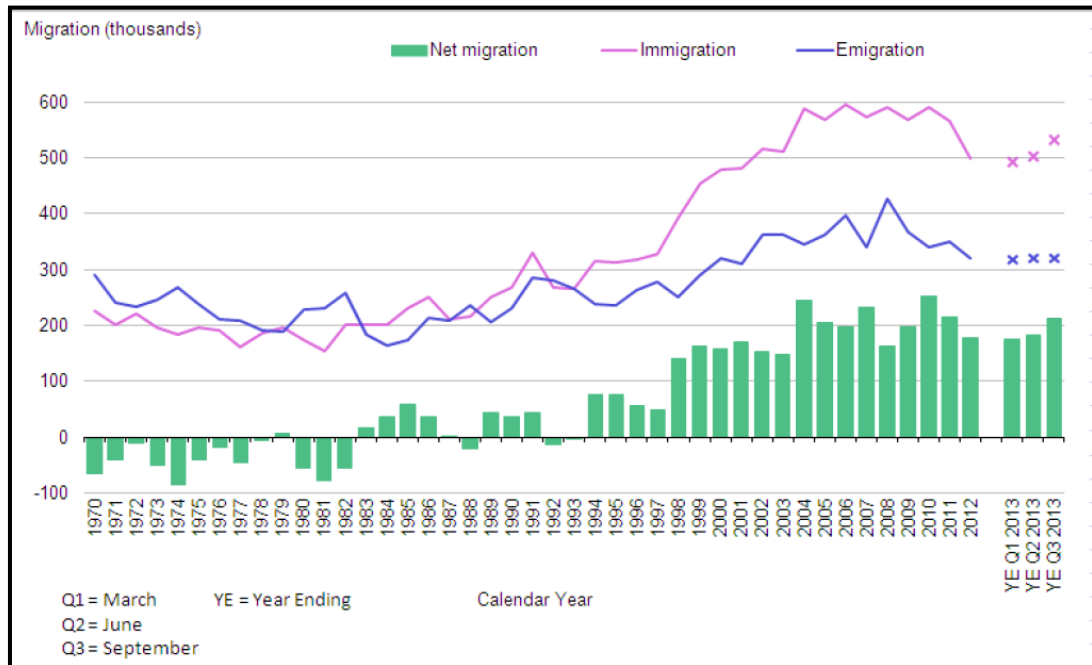


Figure 2.01 Long term international migration, 1970-2012 (annual) (ONS, 2014a)

In the next 10 years, the UK population is projected to increase by 4.3 million from 63.7 million in mid 2012 to 68 million in mid 2022 (Table 2.0) (ONS, 2013a). Of the 4.3 million projected increase in the UK population, 1.7 million (39%) is the projected net number of migrants (ONS, 2013a). The projected number of future births and deaths are dependent on

the assumed level of net migration. Migration is concentrated on young adults, and the assumed level of net migration affects the projected number of women of childbearing age, and hence the projected number of births. Thus 60% of the projected increase in population from mid 2012 to mid 2037 is directly attributable to future migration (43%) or indirectly attributable to the effect of fertility and mortality on future migrants (17%) (ONS, 2013a:4). Thus migrant numbers in the UK have been seen to and are expected to continue increasing.

	2012	2017	2022	2027	2032	2037
United Kingdom	63.7	65.8	68.0	70.0	71.7	73.3
England	53.5	55.4	57.3	59.1	60.7	62.2
Wales	3.1	3.1	3.2	3.2	3.3	3.3
Scotland	5.3	5.4	5.5	5.6	5.7	5.8
Northern Ireland	1.8	1.9	1.9	2.0	2.0	2.0

Table 2.0 Estimated and projected population of the UK and constituent countries, mid 2012 to mid 2037 (millions) (ONS, 2013a).

This is important in the context of this research because net migration has led to increased ethnic diversity in England and Wales: “In 1951 the top ten non-UK countries of birth represented 60% (1.1 million) of the total foreign born population, compared to 45% (3.4 million) in 2011. This shows that the population has become more diverse, with the non-UK born population in 2011 less dominated by the top ten non-UK countries of birth” (ONS, 2013b). The data also indicates that there are several major groups that have continually been present in the top ten non-UK countries of birth (ONS, 2013b) (Figure 2.02).

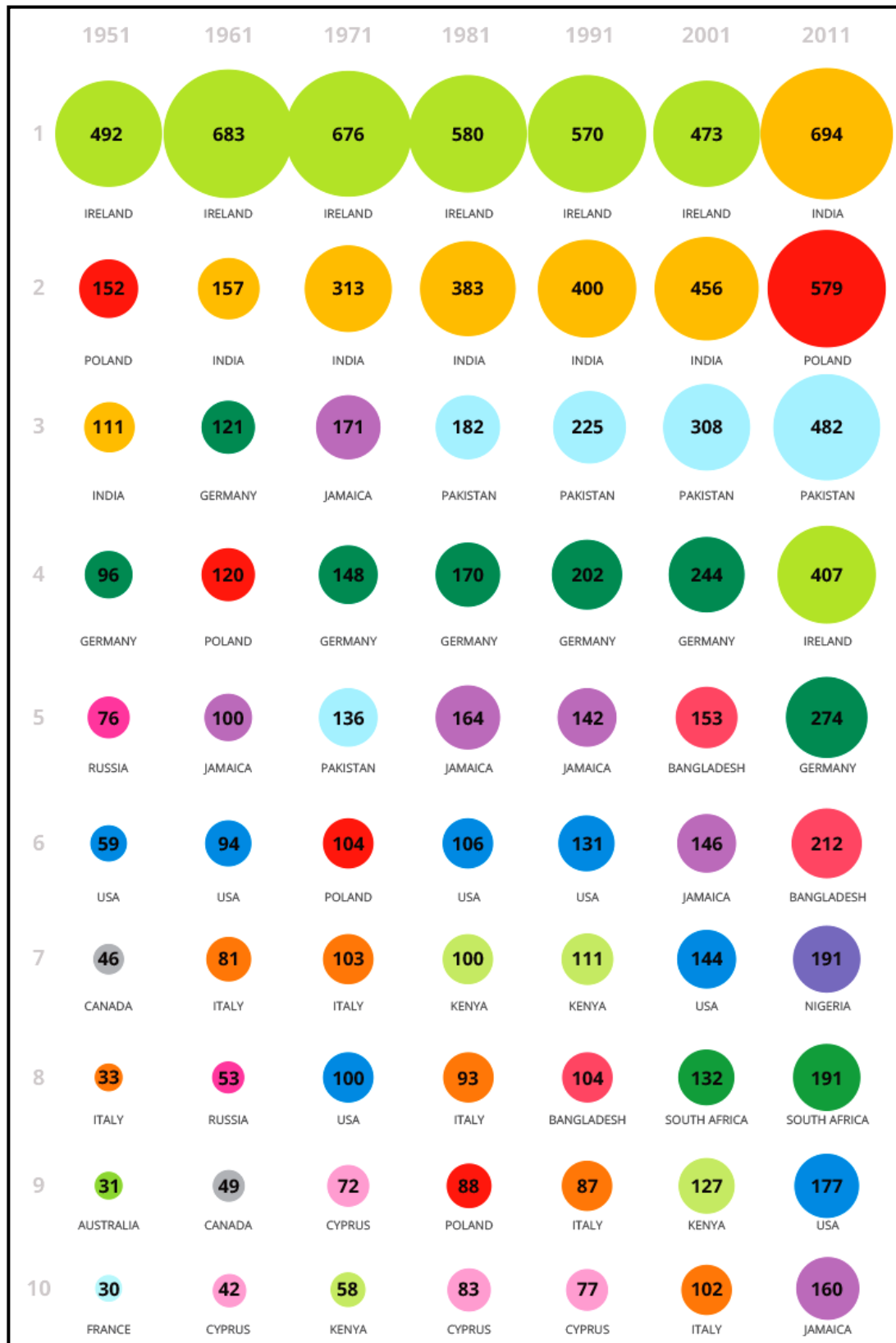


Figure 2.02 Top ten non UK countries of birth for the resident population in England and Wales; 1951- 2011 (thousands) (ONS, 2013b).

Furthermore, “47.5% of immigrants that arrived since 2005, and are still in Britain in 2009, belong to an ethnic minority group” (Dustmann et al. 2011:1). Thus ethnic minority immigrants are increasing ethnic minority group numbers in the UK both through immigration and natural growth (Simpson, 2013): “Over one third of ethnic minority individuals are UK born (36.5% in 2009)” (Dustmann et al. 2011). This means that British born descendants of ethnic minority immigrants represent an increasing share of the ethnic minority population in the UK (Dustmann et al. 2011, Simpson, 2013). Thus ethnic minority individuals may be perceived as being migrants themselves or as descendants of immigrants. The implication of the current and projected increase in migration is that the increased number of ethnic minority immigrants will contribute to ethnic minority group numbers, both as first and subsequent migrant generations. This is important as it may result in an increasingly higher number of people that are vulnerable to flooding.

This may be related to existing research which indicates that the migration process often involves chain migration, with individuals joining established relatives to create extensive network formations (Ghuman, 2003). Thus migrants as newer groups may live in close proximity to their family and friends in areas that are vulnerable to flooding.

Although the literature has categorised ethnic minority groups as being vulnerable in terms of their response to flood warnings and likelihood of being flooded, this has not been explored from a different perspective looking at ethnic minority groups in the context of them being migrants. It must be considered that although their location may be vulnerable, this does not necessarily indicate that migrants are also vulnerable to flooding as they may be aware of how to respond to flood risk. They may have had a previous flood experience abroad and this may influence their risk perceptions and response to flood risk in England.

The existing migration literature relates to the integration of migrants into society (Pillai et al. 2007), their impact on the labour market (Drinkwater et al. 2006) and the changing migration profile of the UK (Bauere et al. 2007). The existing literature on migration and flooding focuses on how migration may be a consequence of flooding (Warner, 2010) or how migration may reshape the risk of flooding (Adikari et al. 2010), but there is a lack of research focusing specifically on migrant ethnic minority groups in England and their understanding of and response to flood risk in the context of risk perceptions. This is important to understand in light of both increasing flood risk and migrant numbers in England and is discussed further in this chapter.

However, as it has been established that this research focuses on South Asian including Indian and Bangladeshi, but mainly Pakistani migrants, there is firstly a need to discuss the migration trends more generally and relating to this particular group in more detail.

### **2.2.7 Migration trends**

The data from the 2011 census indicated an increase in both migrant numbers and ethnic diversity in England and Wales over time (ONS, 2013b). As seen in Figure 2.02, there has been a change in the top ten non-UK countries of birth since 1951; in 2011 the top three non UK countries of birth were India, Poland and Pakistan.

The diagram indicates that the Republic of Ireland was the largest non-UK born group in each census until the most recent 2011 census where they were the fourth largest. In 1951, Polish born migrants were the second highest ranking group, making up 8% (152,000) of the total non-UK born population. This was a result of Polish migrants arriving during and after the Second World War. However the number of Polish-born residents declined until the 2011 census, when 579,000 were recorded in the resident population. “This was almost a ten-fold increase from 58,000 in 2001; it was a result of Poland being admitted to the European Union in May 2004” (ONS, 2013b). Thus the Polish-born were once again the second highest non-UK born group, although with a much larger number of residents.

The 2011 census data therefore suggests that in terms of recent migration trends, the biggest growth has come from Polish migrants. However, only first generation Polish migrants could be interviewed as they are not yet an established group. Furthermore, Polish migrants are not ethnicised as under the census there is no category for ‘European’ and thus their ethnicity is defined as ‘White’, and they would not be considered as an ethnic minority group. As this research focused on ethnic minority groups and specifically established South Asian migrants, it is recognised that although the groups that were interviewed have grown over recent decades, and continue to do so both through migration and natural growth as discussed in Section 2.2.8, and this was beneficial in terms of the intergenerational aspect of the research, allowing interviews amongst first and second generation migrants, these groups are not seen as the most recent migrants nor the ones that have experienced the largest growth since 2001.

### **2.2.8 South Asian migrants**

The census data indicated that in 2011 those born in India were the largest group at 694,000 migrants. This group has consistently accounted for a large proportion of the non-UK born population of England and Wales: In 1951, India was the third highest non-UK country of birth accounting for 5.9% (111,000) of all foreign born, and many of these were the children of British service personnel born in India before Independence in 1947 (ONS, 2013b). The number of people born in India then increased and almost doubled between 1961 and 1971. “From 1961 until 2001 Indian-born was the second highest ranking non-UK country of birth and in 2011 became the largest foreign born population” (ONS, 2013b).

The Indian group is seen to be an exception among established ethnic minority groups: “it has grown through immigration during the period 2001-2011 more than through an excess of births over deaths” (Simpson, 2013). Thus the Indian population has been added to by migration, particularly of those now in their twenties and thirties. Migration accounts for two thirds of the Indian group’s growth from 2001-2011 and this is likely to be related to India’s economic success during the 2000s. The increase in immigrants from India are mainly students and for work as skilled migrants, but also to join family including marriage related migration as discussed further below (Simpson, 2013).

In relation to Indian migrants, it is important to recognise that the Kenyan-born population in England and Wales began to increase during the 1960s, rising from 6,000 in 1961 to 58,000 in 1971. Many of these migrants were East African Asians who were descendants of migrants from the Indian sub-continent that had settled in East Africa during the British colonial administration and who had experienced discrimination in Kenya (ONS, 2013b).

The 1991 census recorded 104,000 Bangladeshi-born, compared to 48,000 in 1981, indicating a rise of 118%. This wave followed the Bangladeshi war of independence in 1971 and subsequent military coup (1975) and was influenced by the poverty and instability in the country. The increase in Bangladeshi-born continued in the 1990s, rising to 153,000 in the period 1991-2001 (47%) and this has predominantly been through marriage into the settled British Bengali community, facilitated through existing transnational kinship ties (Charsley et al. 2011). In 2011, Bangladeshi-born migrants ranked sixth in the non-UK born group.

The Pakistani-born population saw a noticeable rise between 1961 and 1971 when the population more than quadrupled from 31,000 in 1961 to 136,000 in 1971, becoming the fifth highest ranking non-UK country of birth in 1971, and has continued to increase since then, ranking third in 1981 and subsequent censuses (ONS, 2013b). The increase in the Pakistani-born population during the 1960s may partly be related to the war with India in 1965, and the ‘pull’ of employment in the UK. The Pakistani-born population of England and Wales ranked highly in the 2011 census, comprising 6.4% of the foreign born population in England and Wales (ONS, 2013b). However, there has been more growth amongst Indian than Pakistani migrants as a result of student, skilled and family migration, whereas the Pakistani migrants continue to grow largely due to marriage related migration as a consequence of restrictions on commonwealth labour immigration to Britain since the 1960s (Charsley 2013).

The 2011 census data indicated that although the Pakistani and Bangladeshi born population may not have experienced the largest growth, they along with the other diverse ethnic groups, have contributed to the majority of the increase in the population of England and Wales in the last 20 years. “Those which have experienced the greatest increase since 1991

are the African, Chinese, Bangladeshi and Pakistani ethnic groups, and their growth is partly a result of their youthful populations who are of the ages likely to have children and therefore experience more births than deaths. This natural change is the main source of growth for the Bangladeshi and Pakistani ethnic groups” (Jivraj, 2012: 2), highlighting that their growth through further immigration is less than their ‘natural’ growth within England and Wales (Simpson, 2013).

However, as discussed, the literature suggests that immigration amongst South Asian migrants and especially Indian and Pakistani migrants includes family migration or more specifically marriage related migration to the UK of migrant spouses (Charsley et al. 2011:2). Estimates suggest that the majority of British Pakistanis are married to spouses from Pakistan; thus the transnational marriages of British born descendants of these migrants play a major role in the natural growth of these groups (Charsley, 2012:192) and this is important in the context of this research in terms of increasing the number of ethnic minority individuals, and thus the number of people potentially vulnerable to flooding. The data suggests that the Indian subcontinent accounts for the largest proportion of migrant spouses in the UK and the colonial relationship between Britain and the Indian subcontinent has influenced migration histories; predominantly male migrants from this region provided labour for post war Britain, and this led to wives and children being brought to the UK (Indian and Pakistanis in the 1960/70s, and Bangladeshis in the 1980s) (Charsley et al. 2011:7). ‘Homeland’ transnational marriages have since been occurring amongst these children as they reached marriageable age as well as amongst subsequent generations born in the UK.

These marriages have been found to be more prevalent amongst certain ethnic and religious groups; in 2009 the largest number of marriage related migrants were Indian (13,985), followed by Pakistani (13,035), Bangladeshi (4,410) and Sri Lankan (1,265) (Charsley et al. 2011:6, Blinder, 2015). There is also an aspect of gendered migration as wives make up the majority of all migrants granted spousal settlement in the UK, however these gender ratios are seen to vary between national groups; the data indicates that “relatively equal numbers of wives and husbands from the Indian subcontinent are granted settlement in the UK (in 2009 the proportion of wives were 62% for India, 62% for Pakistan, and 63% for Bangladesh)” (Charsley et al. 2011:7). Nevertheless the majority of literature focuses on migrant wives, with a comparative lack of research on male marriage migration.

Data from the Labour Force Survey 1992–2005 has indicated that 24% of British Indians were married to migrants (Dale, 2008). This has predominantly been British born Indians marrying into their parental or grandparental homeland. Yet it is also recognised that “marriage-related migration is likely to be diversifying in parallel with broader Indian

migration flows” as discussed earlier, “which now include highly skilled science-oriented migrants, service sector workers, and unskilled migrants” (Charsley et al. 2011:6). This means that spouses may also be entering the UK as dependents of Indian students or points based migrants (Home Office, 2009).

Amongst Pakistani migrants, marriage is seen as the main form of Pakistani migration to the UK. Dale (2008) estimates that the proportion of British Pakistanis married to Pakistani nationals varies between 48% of men and 57% of women, with the majority of marriages being arranged or semi arranged as consanguineous marriages or between distant relatives. The main reasons for this are to reinforce ties to relatives in Pakistan, demonstrate family honour, maintain family assets, further the immigration of kin, cultural reproduction and desire for a religiously observant spouse (Dale, 2008, Charsley et al. 2011, Charsley, 2013).

Literature on issues relating to Pakistani marriage related migrants has particularly focused on the gendered experiences of migrant spouses. Research has suggested that migrant wives are in many cases viewed as vulnerable to abuse and exploitation, with their isolation amplifying patriarchal control, especially as British Pakistani men may hope to reassert gendered relations of power in seeking a ‘traditional’ wife from Pakistan (Charsley, 2013: 167, Charsley, 2014).

However, less attention has been paid to male marriage migrants, numbers of which have increased since 1997 (Charsley, 2005). Charsley (2013) explored men’s culturally informed experiences of migration. She found that “the combination of social and economic processes of migration intersect with features of Pakistani kinship and masculinity to produce challenges for some immigrant husbands. These include problems of employment and downward mobility, loss of social networks, the culturally unusual position of residence in their wife’s household, experiences of cultural difference and challenges to izzat” (Charsley, 2013:158). Importantly, in transnational Pakistani marriages male migration creates new domestic power relations which can “undermine the migrant husband’s ability to act in accordance with Pakistani ideals of masculinity” (Charsley, 2013:171). However, it is recognised that the dominant representations of marriages involving migration to Britain have presented them as problematic, but experiences are not the same across all marriage migrants (Charsley, 2013).

The discussion on recent migration trends and more specifically trends amongst South Asian migrants relating to family migration has provided a greater insight into the background of the participants in this research. It is recognised that although there were recent Indian and Pakistani migrants in the sample, on the whole the South Asian migrant groups interviewed in this research are not groups based on recent migration such as the European immigrants, and instead are more established, growing groups.



The Indian migrants interviewed included first and second generation migrants. The first generation migrants had either arrived over twenty years ago, or were more recent migrants who had arrived with their families as skilled migrants or were female marriage migrants. The Pakistani migrants mainly included migrants from Mirpur and included established first generation migrants who arrived several decades ago and more recently arrived first generation male and female marriage migrants who spoke about their relationships with their British spouses.

### **2.2.9 Class and gender relations**

The data suggests that there have been significant differences in the timing of migration between the key South Asian groups (Dale, 2008), but research also suggests that there are class differences between the groups, with the socio-economic status (education, occupation and income used as proxies for class) of Pakistanis and Bangladeshis being much below those born in India. The literature suggests that the societies of origin, including having an urban or a rural background are important factors influencing socioeconomic status. These findings were reported in Modood et al. (1997) who explored the different trajectories of Indian, Pakistani and Bangladeshi migrants and subsequent generations on the basis of four surveys conducted in 1966, 1974, 1982 and 1994 as part of the 'National Survey of Ethnic Minorities in Britain' (Modood et al. 1997, Modood, 2005).

He found that in terms of education and qualifications, the Labour Force Survey of the 1980s indicated that "while African Asians and Indians had higher qualifications than whites, the position of Pakistanis and Bangladeshis was much worse, in fact the worst of all ethnic groups...more than half had no qualification" (Modood, 1997a:63). The 1994 survey found that Pakistani men were less qualified than white men, whilst Pakistani women were much less qualified than all other women (Modood, 1997a:65). More than one third of the Indian and African Asian migrants had higher qualifications, and more than half of these African Asians had a degree, whilst two thirds of the Indians had a degree. There was an important difference between these migrants of different origins; Indian migrant women had few British qualifications, whilst one quarter of Indian men had British qualifications. In contrast, more than half of the higher qualifications below degree level of African Asian men and women were British.

This was due to differences in the societies of origin and the extent to which they had an educational and qualification system based on Britain's. There is a long association between India and Britain with India forming part of the British Empire until Independence in 1947. One consequence of British colonialism is that English is widely spoken in India and is the teaching medium in schools and universities. India has a relatively developed education

system which expanded after independence, but the Indian education system draws close parallels with the British system (Dale, 2008:1).

Twice migrants are those people of South Asian origin who had migrated to the UK from countries other than South Asia, and are typically descendants of people of Indian origin who were settled in British colonies. These migrants from the Punjab and Gujarat in India travelled to East and South Africa to work as merchants, traders and civil servants for the colonial government. They occupied a middle position in the colonial system in Africa and were responsible for a significant proportion of commercial trade in Kenya and Uganda in the 1940s (Anitha & Pearson, n.da).

As Kenya and Uganda achieved independence later than India (1963), this continued the British connection, with schools in urban areas staffed by native English speakers and English syllabuses being taught. However, after independence 'Africanization' policies affected the livelihoods of the Asian communities, leading to many educated, middle class, East African Asian families who spoke fluent English and came from an urban background choosing to migrate to the UK in the 1960s (Modood & May 2001, Anitha & Pearson, n.da).

Although these migrants could not bring many items from Kenya or Uganda, being twice migrants, they may be seen to have greater social capital than migrants from a rural Pakistani background (Ballard, 2002:12). The Pakistani migrants who arrived in the 1960s were from poor feudal or semi feudal rural areas such as Mirpur, and this involved the power and influence of large landowning families who had no direct contribution to agricultural production because this was handled by peasants. Instead the landlords controlled local people through debt bondage, and power over the distribution of water, fertilisers and permits. Migration from Mirpur increased in the 1960s due to the building of a dam for mega irrigation which resulted in the displacement of residents. The UK government, being a guarantor for the project allowed residents to immigrate to the UK; migration from Pakistan was male-led with many migrants settling in areas of declining industry such as the industrial areas of North-West England (Hasan & Raza, 2009). Family migration involved family reunification (Kofman et al. 2005) as women came to Britain as dependents, from a culture where they were responsible for domestic life whilst men were expected to be the bread-winners (Dale, 2008). During this period, professionals also emigrated from urban areas of Pakistan to the UK and USA, but in much smaller numbers (Hasan & Raza, 2009). In general very few Pakistani migrants arrived with significant educational or professional qualifications (Ballard, 2002); the 1974 survey indicated that less than two thirds of Pakistani men and less than half of Pakistani women spoke English fluently.

These factors are relevant to understand why overall, the African Asians and Indians were seen to be better qualified than the Bangladeshis and Pakistanis (Modood, 1997a: 69), and

these issues have influenced socioeconomic trends amongst subsequent generations. The 1994 data indicated that although second generation migrants were much more qualified than first generation migrants, these trends continued, with division between the ethnic minority groups. The number of qualified Pakistani migrants increased slightly, whilst there was no change amongst the Bangladeshi migrants and overall these groups were still amongst the least qualified of the ethnic minority groups. The second generation of African Asian and Indian migrants were more qualified than the previous generation, with African Asian migrants still being the best qualified of all groups amongst the first and second generation migrants. This can be attributed to different starting points of different groups and an ethnic minority educational drive: children of parents with higher qualifications are more likely to pursue higher qualifications themselves (Modood, 1997a:77).

Occupation is related to, but not completely correlated with qualifications, and the surveys found that earnings increased with qualifications. The second survey data (1974) found that first generation “African Asians, were much better qualified, had a better facility in English and were more likely to be in non manual work than Indians; correspondingly, Indians were in a much better position than the Pakistanis” (Modood, 1997b: 113). The labour shortages in Britain had shaped post war migration from India which was primarily men from middle – ranking peasant families in Punjab, those that had been employed in the colonial army or police force, which influenced their social capital and was beneficial after migration (Anitha & Pearson, n.db). These migrants worked in the manufacturing, textile and service sectors in Britain. In contrast, Pakistan men from rural areas of Pakistan found employment in the textile industries of Lancashire, Yorkshire, Manchester and Bradford, car and engineering factories in the West Midlands and growing light industrial estate (Anitha & Pearson, n.db).

The third survey (1982) found that in terms of earnings there was little difference between Indians and African Asians, but they were better off than Pakistanis and Bangladeshis. The 1994 survey indicated that Indian migrants were better represented as professionals, managers and employers and were 8% worse than ‘Whites’ in terms of total income, whilst the African Asians had caught up to the ‘Whites’ in terms of earnings; in East Africa they were largely in the professions, administration and business and although these twice migrants were fluent in English and had qualifications, they initially had to accept work in low paid jobs and struggled to gain better pay (Anitha & Pearson, n.da). However, over the years, after rebuilding their livelihoods in Britain they have made progress in re-creating their prosperity as professionals, managers and employers. Furthermore, “a high proportion of their British-born offspring are achieving a spectacular degree of educational success. Law, Pharmacy, Accountancy and particularly Medicine are the preferred routes to upward mobility” (Ballard, 2002: 7).

In contrast, the 1994 survey suggested that Pakistani and Bangladeshi men had unemployment rates of 40%. More than one third of Pakistanis worked in the manufacturing industries whilst more than half of Bangladeshi men worked in hotels and catering industries, and this was reflected in their earnings, which were more than a third below those of 'Whites' (Modood, 1997b: 112). Subsequently, the "Pakistani population in Britain is characterised by high levels of unemployment, large numbers in semi-skilled manual work, and low levels of professionals, managers and employers" (Charsley, 2013:163). There has been some improvement over recent decades (Modood et al. 1997c: 347), whilst greater levels of participation in higher education amongst British Pakistani men and women (Shah et al. 2010), suggest future improvement, however, low female labour force participation potentially related to cultural norms contributes to a depressed socio-economic profile (Charsley, 2013:163).

These trends have been seen to continue, with data on ethnicity and education from the 2011 census indicating that members of Indian groups had higher educational attainment than most other ethnic minority groups in both 2001 and 2011, with 42% of Indians having degree level qualifications (Lymperopoulou & Parameshwaran, 2014:2). This may be related to some extent to the large numbers of student migrants that comprise the Indian group. People from the Pakistani group were less likely to have degree level qualifications than White British people (Lymperopoulou & Parameshwaran, 2014:1). The educational disadvantage of Pakistani groups was highlighted as 28% of Pakistani people had no qualifications. This partly reflects the lower rates of participation in education among some ethnic minority women, such as Pakistani women due to earlier marriage, family formation and cultural practices (Lymperopoulou & Parameshwaran, 2014:2).

However, there were differences in educational attainment amongst older and younger groups. Among Indian and Pakistani people aged 16 to 24, only 5% of Indians had no qualifications and 13% of Pakistanis had no qualifications, but these young Asian groups were considerably more qualified than their older counterparts; nearly a third of Indian people aged 50 to 64 had no qualifications, more than 50% of Pakistani people in this age bracket had no qualifications.

A comparison of the 1991, 2001 and 2011 censuses suggests that all ethnic groups experienced improvements in educational attainment over the last twenty years, with the largest improvements occurring between 2001 and 2011 for the Pakistani and Indian groups, however, in 2011 the Pakistani group was still at an educational disadvantage.

In terms of employment and ethnicity, the 2011 census indicated that 70% of Indian people aged 16-64 were employed compared to 49% of Pakistanis, highlighting that they had lower than average employment rates (ONS, 2014b). Economic inactivity was high amongst

Pakistani women (60%), which may be related to cultural factors relating to men's views about working outside the home (Modood, 1997b:87). This is supported by the 2011 census findings which indicated that 52% of Pakistani women had high economic inactivity because of looking after the family or home (ONS, 2014b), which suggests a continuation of traditional norms based on Pakistani migrants in the 1960/70s who believed men were the breadwinners whilst women were responsible for domestic life. This may also be due to a continuation of the enforcement of these traditional roles by male and female marriage migrants (Charsley, 2013).

However, although the data indicated that Pakistani women were the least likely to be in the labour market, they also experienced the highest rises in rates of economic activity between 1991 and 2011 (from 24% to 43%) and also had the largest increases among women in part-time work: 2011 rates were twice as high as in 1991. This increased participation in the labour market has been associated with smaller families and increased levels of education (Nazroo & Kapadia, 2013:3).

The census data indicated that employment was high amongst Indian men, and this may be related to the recent influx of skilled Indian migrants to the UK. Of those in employment, "men from the Pakistani (57%) and Bangladeshi (53%) ethnic groups were most likely to work in low skilled jobs (ONS, 2014b). This may be because "in the post 1997 boom in immigration, the Pakistanis coming to the UK tended to have lower levels of education than Indian migrants, and people without an education will always struggle to get lucrative jobs" (Demos, 2015). It may also be related to Pakistani migration trends, which mainly include men arriving as male marriage migrants rather than skilled migrants, and their qualifications from abroad may not be recognised in England, and thus they experience downward mobility (Charsley, 2013: 163), contributing to the socioeconomic status of this group.

The data therefore suggests that although there have been improvements over time, the Pakistani group may still be seen as being of a 'lower class' than the Indian group. This is important in the context of this research, because class has implications for gender relations. However, as class is not easy to measure or attribute and was not a focus of this research, and as Modood et al. (1997) suggest education to be a good proxy for class in this context, the focus will be more on education as it interacts with gender norms.

Pakistan is a patriarchal society, where men are the primary authority figures and women are seen to be subordinate. These gender roles are based on the concepts of production and reproduction, which mirror the masculine and feminine traits of an individual (Ali et al. 2011). In Pakistan more than 50% of women lack basic education (Ali et al, 2011: 4) because a woman's place may be seen to be in the home, women may be excluded from decision making and may have to acquire their husband's permission before performing any

activity (Ali et al. 2011:7). This has been documented amongst uneducated migrants that arrived to England several decades ago from areas of Pakistan, with education not being seen as important especially amongst women because they are supposed to look after their family and do housework.

The 2011 census data has indicated that these traditional beliefs have been enforced across generations of Pakistani migrants on the basis of low education and employment figures for Pakistani women: “In many families girls are not encouraged to get an education even if they want to. She is pressurised to become married at 17 or 18 years, and then she becomes a young mother” (Ali et al. 2011:12). Furthermore these trends may be seen to continue because one of the main reasons for Pakistani marriage migration is to continue the enforcement of cultural practices, and avoid the loss of culture. Thus as first generation marriage migrants with low levels of education from Pakistan continue to arrive and contribute to the Pakistani population in Britain through natural growth, these traditional gender norms may continue to be followed and enforced (Section 2.5.1).

The enforcement of such gender norms may be seen to be predominant amongst Pakistani migrants from rural Mirpur. Amongst Pakistanis in Britain, villagers such as those from Mirpur are perceived as being uneducated, ill mannered, crude and short tempered (Charsley, 2013:15). Charsley (2013) found that amongst British Pakistanis, Mirpuri migrants were perceived to be ‘pindus’ (literally meaning from the village), who were strict about close kin marriage within the caste and were those that had higher levels of transnational marriages: over 60% of Mirpuri marriages are contracted between first cousins (Ballard, 2002:13). As a result kinship networks are much more tightly in-turned but are also very much less spatially extensive due to this chain migration, resulting in close knit communities.

Research has suggested that amongst rural Mirpuris in Pakistan, urban families may be seen to be overly ‘modern’. This modernity involves women working, not wearing their head scarves in public and ‘doing fashion’. This is further summarised by a daughter in law from an urban area in Pakistan who married into a Mirpuri family who was interviewed by Charsley (2013): “These pindus (laughs)... they don’t like to give girls out of the family or take girls out of the family (in marriage). And my husband was the first person to bring me, an outsider. They think we’re big headed and really full of ourselves, no manners... And because we’re modern and I don’t wear a hijab - they’re all into hijabs and things. They have this thing that we’re modern and we’re...probably bad basically because outgoing girls for them are bad” (Charsley, 2013: 16).

This attitude may be seen to continue after migration amongst Mirpuri migrants who moved from Pakistani rural areas to urban communities in England (Section 2.5.1). They may be

attempting to maintain and strengthen their traditional ideologies and cultural beliefs and prevent their families and especially women becoming overly modern, and one way to achieve this is through intensive use of their ancestral cultural capital; by conducting transnational and consanguineous marriages, and having close knit families to enforce gender norms relating to the expected behaviour of women (Ballard, 2002): a woman's subordinate position is considered to be "reproduced and maintained, generation by generation, through adherence to cultural and religious norms, reinforced especially by the extended family" (Ali et al. 2011:18).

Importantly a lack of education amongst Mirpuri first and the limited education of second generation Pakistani migrants may be seen to facilitate the enforcement of these gender norms and preserve women's subordination, because increased education leads to a change in these norms and more liberal ideas about the status of women (Jewkes, 2002). Research within five areas of differing socioeconomic status in Karachi, Pakistan found that amongst the lower socioeconomic class, a good husband would permit a woman to work outside the house but not at the expense of her domestic responsibilities (Ali et al. 2011). In contrast, amongst the upper socioeconomic class a good husband was expected to maintain gender equity, give decision making autonomy to his wife and support her employment. This highlights how gender intersects with class.

The research also found that education was a key factor in the power of women: educated women had better marriage prospects, management skills and could contribute to the family financially. They were aware of their rights and could postpone their marriage, find an educated partner and could contribute to society. On the other hand, women with lower education were considered powerless, they had little decision making capability and were unaware of their rights and thus continued adhering to gender norms; decisions were made for these women before marriage by their parents and after marriage by their husband and in-laws. Education was seen to ensure future security in terms of enhancing the capacity of women to fight for their rights: "an educated mother could act as a change agent towards a higher level of gender equity by enhancing her daughter's professional education" (Ali et al. 2011:15). Thus education is seen as an important factor in future change towards more equal gender roles.

These findings are important in the context of this research in terms of the enforcement of gender norms across migrant generations amongst the lower class less educated Mirpuri migrants living in the flood prone study locations, and the implications for the response to flood risk. In limiting the education of women, this allows first generation migrants to control their 'outside earning' (Sen, 1985) and also allows them to control whether they can be outside to earn an income, preventing them from becoming 'modern' and having a voice

to challenge traditional norms. However, the 2011 census data has also indicated that these trends may be changing as second generation Pakistani migrants were more educated than their migrant parents, with increased employment figures amongst women, and this suggests that their education as ‘outside earning’ may give them greater power in terms of a voice to challenge the enforcement of these traditional gender norms.

This is discussed further in Section 2.5 in terms of the origins of patriarchal control and the social reproduction of gender norms within South Asian migrant households in England in response to the acculturation process and threats to the family honour, and how this may limit the extent to which women have bargaining power and a voice in the home. ‘Outside earning’ such as in the form of education will be discussed in terms of increasing bargaining power, but as gender is not homogenous, and intersects with age, bargaining power is not the same for all women, and may have implications for the practical response to flooding. This is discussed in the context of gender norms influencing the behaviour of women in disasters in the developing and developed world.

### **2.3 Risk perception and previous experience**

This section will discuss the paradigms of risk perception and the approaches within these paradigms including the psychometric approach, the heuristics and judgement approach and Cultural Theory. It will explore the role of previous flood experience in influencing flood risk perceptions and how this may be explained within the Protective Motivation Theory. There will also be discussion of how previous flood experience may be misleading as well as the importance of ‘affect’ in influencing protective behaviour. This will be related to existing research on ethnic minority groups and risk perceptions.

#### **2.3.1 The paradigms of risk perception**

Risk perceptions are “intuitive judgements through which people assess potential impacts and consequences of a hazard and choose appropriate behavioural responses” (Birkholz et al. 2014:13). Each individual has different perceptions of risk based on the type of risk, the risk context, the social context and their individual personality. In other words, risk is a social construct with risk meaning different things to different people. “Not only views about risk change among different people, but even the same person may change his/her views over time” (Scolobig et al. 2012: 3).

The two main risk perception paradigms are the rationalist and the relativist paradigms. Rationalist approaches emphasise an individual’s cognitive processes, those relating to the mental processes of perception, memory, judgement and reasoning, with an assumption that a hazard will prompt an individual to make a judgement which feeds into a rational decision



making process relating to adopting protective behaviours (Starr, 1972, Fischhoff et al. 1978, Tversky & Kahneman, 1982, Slovic, 2000).

On the other hand, relativist approaches identify risk as a contextually, socially constructed phenomenon, with the assumption that an individual's judgements are shaped and constrained by their social environments, which dictate behavioural options (Douglas & Wildavsky, 1982, Birkholz et al. 2014). The approaches within these two paradigms will be briefly discussed to identify their relevance in understanding how previous experience may influence flood risk perceptions in the context of this research.

Risk perception studies were initiated in the 1960s due to disagreements between experts and lay people about the risks of different hazards and technologies. This led to the 'revealed preferences' approach within the rationalist paradigm. Starr (1969) weighted technological risks against benefits to explore 'how safe is safe enough'. He concluded that society had arrived at an "optimum balance between risks and benefits associated with any activity" (Slovic, 1987:281) and therefore risk levels in society were acceptable. Starr (1969) also reported that society seemed to accept risks to the extent that they were associated with benefits and were voluntary; "the public is willing to accept voluntary risks roughly 1000 times greater than involuntary risks" and the "acceptability of risk is crudely proportional to the third power of the benefits" (Starr, 1969: 1237). The greater the perceived benefit of a risk, the greater the tolerance for the risk. The tolerance level is also dependent on the voluntariness of the activity (Slovic et al. 1982).

Sjoberg (1996) argued that the data used by Starr (1969) was weak and difficult to interpret because archival data on accidents was used to measure perceived risk, while aggregated economics were used to measure perceived benefits. Starr (1969) assumed that past behaviour was a valid indicator of present preferences. This is important because it is argued that the conclusions derived from the analysis performed by Starr were sensitive to the way in which measures of risk and benefit are computed from historical data (Fischhoff et al. 1978).

### **2.3.2 The psychometric approach**

The psychometric approach was developed at the end of the 1970s by Slovic, Fischhoff and Lichtenstein because there was concern about the validity of the assumptions in the 'revealed preferences' approach. The psychometric approach within the rationalist paradigm related to the notion that risk is subjective and all dimensions of perceived risk are psychological constructs that can be measured with psychometric methods; "risk is a cognitive construct that can be psychometrically described so as to reveal quantitative levels

of judgement” (Birkholz et al. 2014:15). Thus within this approach there was an aim to quantify individual’s risk perceptions and attitudes through survey questions.

Fischhoff et al. (1978) used psychometric techniques to elicit quantitative judgements of perceived risk and benefit from various activities in relation to (1) its benefit to society, (2) its perceived risk (3) the acceptability of its current levels of risk and (4) its position on nine dimensions of risk identified by Starr (1969) as being important to risk acceptability. These included voluntariness of risk, knowledge about the risk in science, control over the risk, and severity of consequences (Oltedal et al. 2004:14). Participants also judged the degree of voluntariness of each activity. This psychometric approach would reveal their ‘expressed preferences’: how much risk individuals were willing to accept and whether people judged the acceptability of risks differently for voluntary and involuntary activities. The study allowed risk acceptability amongst the public in relation to proposed technologies to be predicted; perceived risk was quantifiable and predictable (Slovic et al. 1982).

The study identified “similarities and differences amongst groups with regard to risk perceptions and attitudes” (Slovic, 1987:282). The findings also indicated that ‘risk’ meant different things to different people. In contrast to Starr’s (1969) findings, individuals viewed the current risk levels as unacceptably high, but in support of his findings, people were willing to tolerate higher risks from activities seen as highly beneficial (Slovic, 1987).

Furthermore instead of voluntariness of exposure and benefits being key factors in risk acceptance as reported by Starr (1969), the study indicated that characteristics such as control, level of knowledge and familiarity also influenced the relation between perceived risk, perceived benefit and risk acceptance (Slovic, 1987). It was found that the nine risk characteristics were highly correlated and could be condensed to identify key characteristics that reflected the degree to which a risk is understood, the degree to which it evokes a feeling of dread and the number of people exposed to the risk (Slovic, 1982).

The nine characteristics were reduced to two factors and multivariate analysis techniques were used to produce cognitive maps of risk attitudes and perceptions. This involved Factor Analysis with the two factors being used to create a factor space (Slovic, 1987). Factor 1 related to ‘dread risk’, which is defined by a high lack of control, fatal consequences and inequitable distribution of risks and benefits. Factor 2 is the ‘unknown risk’, which is defined by hazards that are unobservable, new and unknown. It is understood that “laypersons risk perceptions and attitudes are related to the position of a hazard within this factor space” (Slovic, 1987:283). The higher a hazard is located on the ‘dread risk’ scale, and the greater the lack of control, the greater the perception of risk.

Critiques of the psychometric approach include Slovic et al. (1982, 1987) having a small sample size and using mean risk ratings instead of the raw data. Thus the psychometric approach only accounts for a minor share of the variances between individuals. Through using means rating instead of raw data there is a false impression that the psychometric dimensions are almost completely able to explain perceived risk, whereas if individual data is used the level of explained variance of perceived risks is only 20% not 70-80% as with analysis of means (Sjoberg, 2003).

Thus the psychometric approach aims to understand the processes by which individuals assimilate and transform data. The risk itself is not studied; instead the cognitive and behavioural responses of individuals are of interest. There is a focus on prior knowledge of the individual and how this affects how the stimulus is perceived by the individual. The psychometric approach therefore “encompasses a theoretical framework that assumes risk to be subjectively defined by individuals who may be influenced by a wide array of psychological, social, institutional, and cultural factors” (Sjoberg et al. 2004:11).

Although this approach is important because the previous experience of an individual could lead to increased dread and greater perception of risk, it is not as relevant as the heuristics paradigm which seems to apply more directly to previous experience.

### **2.3.3 Heuristics and judgement**

The ‘heuristics and judgement’ psychology approach within the rationalist paradigm aimed to understand how individuals processed information. It was initiated by Tversky and Kahneman in the 1970s through the heuristics paradigm; the idea that information is processed on the basis of cognitive heuristics, relating to experience based techniques or common sense initiatives which are applied in the process of forming judgements and therefore lead to biases. These heuristics are the primary stage of selecting and processing signals from the world and shape individual judgements of the seriousness of the risk.

The three main heuristics include Representativeness, Availability, and the Anchoring and Adjustment heuristics. In the Representativeness heuristic probabilities are evaluated by the degree to which A is representative of B, but prior probability or frequency of an event occurring is not accounted for. Additionally, role of sample size is not appreciated and thus inferences are made from a small number of cases. There may also be insensitivity to predictability which relates to people making decisions based on descriptions of an event. If predictions are based solely on the descriptions provided, then the “predictions are insensitive to the reliability of the evidence and the expected accuracy of the prediction” (Kahneman et al. 1982:8).

Availability heuristics relate to instances where people form a judgement and “assess the probability of an event by the ease of which occurrence can be brought to mind” (Kahneman et al. 1982:11). These events that can be imagined are thus judged to be more likely than events that cannot be easily imagined. Availability is the heuristic most important for understanding risk perception along with the role of the media; “frequent media exposure gives rise to a high level of perceived risk” (Sjoberg, 2000: 2).

There are biases which arise from relying on the Availability heuristic. The first is biases due to retrievability of instances where instances that are more easily retrieved will seem more numerous than those that are less easily retrieved. The retrievability of instances is affected by the salience or quality by which they stand out such as whether events have been experienced or read about. Subsequently another important factor is the timing of occurrences; “recent occurrences are likely to be more available than earlier occurrences” (Kahneman et al. 1982:11). There may also be biases relating to the search set as well as biases of imaginability. If events are thought about and a high number of risks are imagined then the event is seen as high risk, whereas if less risks are imagined, the event is low risk, giving an inaccurate interpretation of the risks of an event. Finally, illusory correlations in Availability heuristics are seen as the inaccurate judgements of how two events co-occur based on prejudices or selective processing of information. The Anchoring and Adjustment heuristic uses known information as an anchor and adjustments are made as more information is received to create an estimate of the unknown risk. The concern is that the adjustments of the anchor are not enough for the risk to be calculated.

Johnson and Tversky (1983) also explored the role of ‘affect’, which includes emotions, feelings and moods in influencing an individual’s estimate of the frequency of a hazardous event. They found that people tend to make judgements that are compatible with their current mood (affect). There were also two observations of bias in people’s estimates of hazards; individuals overestimated infrequent causes of death and underestimated more frequent causes, and this was related to the availability heuristic and media attention on overestimated risks.

Recent studies have focused on the judgements people make when faced with hazards. The ‘risk as feelings’ hypothesis highlights the role of ‘affect’ experienced when decision making. Finucane et al. (2000a) argued that people have mental representations, which carry an ‘affect tag’. The representations are tagged with negative or positive feelings which will influence the risk/benefit perceptions that individuals have of the hazard. These findings provided the basis for the ‘Affect’ heuristic, where feelings affect risk benefit judgements; “if we like an activity we tend to judge its benefits as high and its risks as low, if we dislike it, we judge it the opposite” (Slovic, 2010:xxi). The “emotional reactions to risky situations

often diverge from cognitive assessments of those risks, and when such divergence occurs, emotional reactions often drive behaviour” (Loewenstein et al. 2001:267).

Thus in the heuristics paradigm people rely on judgemental heuristics to evaluate information instead of assessing probabilities and predicting values. It is recognised that these heuristics can lead to severe errors and inaccurate judgements and became cognitive biases (Tversky & Kahneman, 1974). Nevertheless, the heuristics paradigm is most relevant for this research as the models suggest that affect and emotions may act as cues for probability judgements. This indicates that when “people evaluate the likelihood of occurrence of a risk event, they rely on prior affective experiences, current feelings and images associated with the target event” (Miceli et al. 2008:165). Thus the ‘Affect’ heuristic theory may be most appropriate for understanding how previous experience may influence risk perceptions, and may be more relevant than ‘Cultural Theory’ which is one approach of many within the relativist paradigm.

#### **2.3.4 Cultural Theory**

In the 1970s and 1980s it was argued that the rationalist paradigm did not take into account the social structures within which risk perceptions developed. Douglas & Wildavsky (1982) argued that risk perception is a culturally constructed phenomenon. Culture is a “determinant of how an individual views the world, interprets events, values or rejects” (Brenot et al. 1996: 239) and is usually “acquired through enculturation, the process through which an older generation induces and compels a younger generation to reproduce the established lifestyle” (Oltedal, 2004: 17). Therefore Cultural Theory is based on the “uniquely human capacity to classify experiences, encode such classifications symbolically, and teach such abstractions to others” (Oltedal, 2014:17).

Within Cultural Theory, ‘cultural bias’ and ‘social relations’ led to a ‘way of life’, which was reproduced through enculturation of younger generations. Douglas and Wildavsky (1982) proposed four broad ‘ways of life’ which shaped individual perceptions: the Egalitarian (technology and the environment), Individualistic (war and threats to the market), Hierarchical (law and order) and Fatalist (none of the above) groups. “Theoretically each pattern designates what is a risk and what is not, thus risk perception is a social construction shared by adherents to a particular pattern, and is coherent with a certain world view” (Brenot et al. 1996:240).

Studies have not reported findings in support of Cultural Theory and highlight that the complexity of culture has to be considered (Oltedal et al. 2004) and therefore the view of cultural adherence is not a precise predictor of risk perception. Critiques of Cultural Theory are thus based around it having a low level of explanatory power due to the few factors that

were used to measure cultural adherence. Additionally, it is recognised that people are different and thus a general theory is insufficient because cultural adherence is not an inherent individual characteristic. It is also believed that “cultural biases account for only 5% of the variance of perceived risk” (Sjoberg, 1996:222) and therefore Cultural Theory only explains a small part of the variance in how risks are perceived.

The enculturation aspect of Cultural Theory is interesting in the context of this research, especially in relation to the communication of previous flood experience between generations. Nevertheless, on the basis of the low explanatory power of the theory and existing research which highlights the issues of categorising individuals into different ‘ways of life’ because they adhere to different cultures in different situations (Oltedal et al. 2004), the grid group typology would be inappropriate for exploring the risk perceptions of different migrant generations.

There have been extensive risk perception studies, with various approaches and different paradigms attempting to explain why individuals have different risk perceptions. There is no single theory to explain the variations in the way people perceive risk. Perceptions differ based on the type of risk and its characteristics as well as the socio cultural context and individual personality traits (Scolobig et al. 2012).

It is acknowledged that there are criticisms of the methods used to analyse data and construct risk perception models. The different approaches that have been discussed in this chapter may also be seen to account for varying portions of risk perception. The psychometric model has a 20% explanatory value, Cultural Theory only explains 5-10% of the variance of perceived risk whilst the heuristics approach accounts for a minor portion of risk perception (Sjoberg, 2000). Nevertheless, in the context of this research, the approach that is most relevant for framing how the flood risk perceptions of first generation migrants may be understood and especially how this may be influenced by their previous flood experiences is the ‘Affect’ heuristic which is based within the rationalist paradigm.

This approach will allow understanding of how information is processed based on cognitive heuristics including those relating to memory. Individuals will be asked to recall their previous flood experiences abroad and these mental representations will be understood in terms of the ‘affect’ tag that they carry and the related risk perceptions of the individual. This will lead to an understanding of how their previous flood experience may influence the flood risk perceptions of first generation migrants in England. Furthermore, it is understood that an emotional response to a risk is an outcome of a cognitive process (Loewenstein et al. 2001). In this context, risk perception is understood in terms of how a cognitive process is tagged with an emotion, and this emotion drives behaviour. Thus understanding the emotional aspects of risk perceptions will lead to a better understanding of how individuals

may respond to flood risk in England. The importance of this approach in the context of previous experience and emotional response is discussed further within this chapter, particularly in Section 2.3.8.

### **2.3.5 The role of previous experience**

Flood risk perceptions may affect how migrant ethnic minority groups respond to flooding because the “manner in which people perceive and understand flood risk shapes the judgements they make and the actions they take in preparing for and responding to flood events” (Birkholz et al. 2014:13). Thus, an individual’s risk perception can affect his or her response to flooding (Fielding et al. 2007, Fernandez-Bilbao & Twigger Ross, 2009) as “the higher the ‘perception of flood risk’, the higher the number of protective behaviours adopted to prepare for a future flood disaster” (Miceli et al. 2008). “If an individual estimates the risk from a hazard to be low, they are less likely to act to reduce their exposure to this hazard” (Martin et al. 2009:489). Furthermore, risk perception may be influenced by various factors including the personal traits of the individual (Burn, 1999), memory, emotional state (Parker et al. 2009), their age, gender, socioeconomic status and their previous experience (Drabek, 2000, Tunstall et al. 2000, Tapsell et al. 2005, Parker et al. 2009, Terpstra, 2011).

Kates (1962) stressed that choices made by individuals are based on individual knowledge (prison of experience) and this experience determines their perceptions of hazards. Kates (1962) highlighted that “personal experience of floods was one of the biggest influences on flood risk response” (Harries, 2008:29). It is important to understand that previous flood experience can have a “positive or negative impact on the response of potential flood victims” (Burn, 1999: 3452). Experience with floods may “increase perceived risk and may result in more prevention behaviour” (Siegrist & Gutscher, 2008:771). Thrush et al. (2005) found that previous flood experience would facilitate and inform appropriate action in a future flood event (Fielding et al. 2007:8, Siegrist & Gutscher, 2008).

### **2.3.6 Protective Motivation Theory**

This may be explored further within the Protective Motivation Theory (PMT) which highlights how previous experience leads to protective response within threat appraisal decision making. PMT was originally used to provide a framework for understanding human behaviour in terms of health threats by Rogers (1975) and has since been applied to environmental hazards. PMT states that individuals will protect themselves on the basis of threat appraisal (risk perception) and coping appraisal.

Threat appraisal relates to the severity and seriousness of the situation, and describes how a person will assess the probability of a threat (Grothmann & Reusswig, 2006:104). There are three subcomponents of threat appraisal: perceived probability, perceived severity and fear.

Perceived probability is “the persons expectation of being exposed to the threat” (Grothmann & Reusswig, 2006:104) and in this case this could be whether the flood waters reach the persons house. Perceived severity is the person’s estimate of how harmful the consequence of the threat would be to them and fear will affect the estimate of the severity of the danger. Fear is measured by ratings of worry or concern (Rogers, 1975).

The coping appraisal relates to the individual response to the situation, where the person will evaluate their ability to cope with the threat and avert being harmed by it. It will only begin if “a specific threshold of threat appraisal is passed” (Grothmann & Reusswig, 2006:104) as the person must believe there is a certain level of threat before they begin to assess the benefits of their actions. Coping appraisal has three components: perceived protective response efficacy (believing that protective actions will be effective), perceived self efficacy (the individual’s perceived ability to carry out protective responses) and perceived protective response costs (cost in time, effort and money in carrying out preventive responses).

The individual responds to the threat based on the outcomes of the threat and coping appraisals. The response will be protective or non protective. The protective response will occur when the decision is made to take action, and this is called ‘protection motivation’ (Grothmann & Reusswig, 2006:106). Non protective responses include denial and fatalism and would occur if the individual has low coping appraisal. If there is high threat perception, an individual is more likely to adopt a coping response. Whether the response is protective or non protective depends on their coping appraisal (Grothmann & Reusswig, 2006:104).

Grothmann & Reusswig (2006) explored how PMT could be used to explain flood preparedness (Figure 2.03). They extended the PMT model to include personal experience; “nearly all studies on effects of personal experience on self protective behaviour regarding natural hazards show preparedness increasing with the severity of past damage” (Grothmann & Reusswig, 2006:107).

Grothmann & Reusswig (2006) acknowledged that the threat appraisal aspect of the PMT describes the perceived probability and severity of a hypothetical threat. They added that a ‘threat experience appraisal’ would assess the severity of a past threat experience, which could be used as an indicator of perceived certainty that a flood might affect the individual in the future. The threat experience appraisal would subsequently motivate people to take precautionary action.

Their research indicated that threat experience appraisal, threat appraisal, and coping appraisal all correlated positively with protective responses. If an individual had previous experience of a flood then due to the threat experience appraisal, they would have a protective response.



In this research, the PMT will be used to understand the results of the research; how previous flood experience abroad may or may not lead to a protective response and how this may be related to the threat appraisal and coping appraisal.

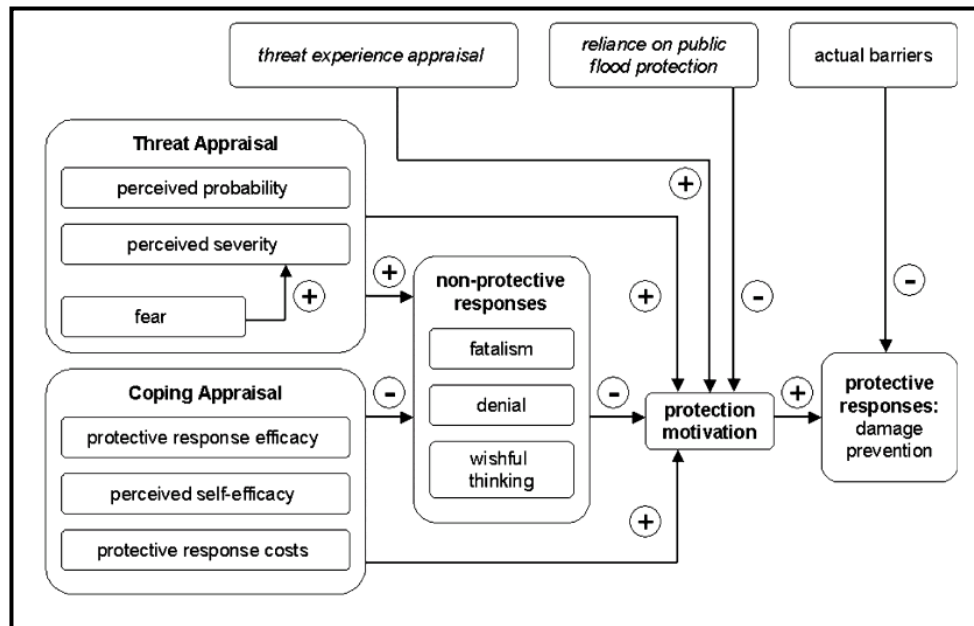


Figure 2.03 PMT model applied to flood risk with personal experience variable (Grothmann & Reusswig 2006)

### 2.3.7 Misleading previous experiences

Research has also indicated that “it is not the experience of flooding that drives mitigation behaviour, but the severity of the experienced negative consequences” (Bubeck et al. 2012:1491). The previous flood event may have been of a low magnitude and thus if individuals did not suffer damage, they will not feel it necessary to protect themselves or their homes when another flood threat arises. This is due to an optimism bias, where hazards are underestimated due to cognitive factors, not evidence; “if in the past the event did not hit me negatively, I will escape also negative consequences of future events” (Mileti & O’Brien, 1992:53).

Individuals that have had more intense personal experiences of flooding such as water damage in their home are more likely to have increased risk perceptions than those that did not experience personal flood damage. Yet on the other hand, a large flood event which overwhelms defences and causes considerable damage may lead to individuals feeling helpless. Thus in the case of a future event they will not protect themselves because their experience has indicated that protection will not prevent damage (Bradford et al. 2012). These are examples of ‘misleading personal experience’ which can lead to risks being misjudged in a flood event and affecting preparedness actions (Burn, 1999: 3452).

“Earlier experience with a disaster can also lower the perceived risk associated with future events” as individuals believe they have experienced one disaster and therefore the

likelihood of them experiencing another is decreased (O'Neil, 2004, Botzen et al. 2009:4, Martin et al. 2009). The timing of the experience is also important, as experiences of flooding in the distant past have been found to have a small influence on risk perceptions and mitigation behaviour (Bubeck et al. 2012). Therefore it has been argued that "prior experience with flood events would appear to be most useful when it is recent and relevant to the current event" (Burn, 1999:3457).

Previous flood experience is important in this study because research has indicated that ethnic minority groups in the UK who had flood experience abroad had lower risk perceptions in the UK (Robertson, 2004), and this was related to the 'Affect' heuristic. The relevance of this existing research will be discussed in Section 2.3.9, but as 'affect' has been identified as being relevant in this study, there must be an understanding of the role of 'affect' in the relationship between previous experience, risk perception and preparedness.

### **2.3.8 The importance of 'Affect'**

Miceli et al. (2008) explored disaster preparedness and risk perception amongst participants in Italy who had experienced flooding. They argued that risk perception may be conceptualized as a complex process that involves cognitive and affective aspects. Thus individuals react to risk on two levels; they evaluate it cognitively, which relates to conscious mental activities such as thinking, understanding, learning and remembering, and then react to the risk emotionally (Loewenstein et al. 2001). An emotion is described as a "mental state that arises spontaneously rather than through conscious effort and is often accompanied by physiological changes" (Farlex, 2015a). Feelings may be understood as a representation of emotion and include joy, sorrow or anger. An emotional reaction therefore is that which is driven by emotions. This understanding of risk perception led to risk perceptions being measured in the study using cognitive and affective measures.

The cognitive measures involved subjective probability judgements on the occurrence of a future flood disaster in the study area. The 'Affect' heuristic theory predicts that "positive and negative emotions attached to natural hazard experiences should influence risk perceptions and possibly preparedness behaviour" (Siegrist & Gutscher, 2008, Terpstra, 2011:1660). The affective components were investigated by asking participants to report feelings of worry associated with this future flood disaster. Awareness of flood risk has been found to be strongly correlated to previous experience (Scolobig et al. 2012), and this awareness has been shown to lead to worry (Bradford et al. 2012). There is also a significant relationship between direct experiences of flooding and being worried about being flooded (Bradford et al. 2012). Worry refers to an individual being uneasy, concerned or troubled over actual or potential problems. It refers to the images, thoughts and emotions of a negative nature in which mental attempts are made to avoid anticipated potential threats.

Worry as an emotion is experienced as anxiety, involving inner turmoil and unpleasant feelings of dread over anticipated events. Anxiety relates to the expectation of a future threat.

The results indicated that perception of flood risk was significantly associated with disaster preparedness. Interestingly, risk perceptions related to likelihood judgements were not associated with preparedness behaviour, yet there was a “positive relation between feelings of worry and the adoption of protective behaviours” (Miceli et al. 2008:171). A higher level of worry would result in a higher level of preparedness (Grothmann & Reusswig, 2006, Miceli et al. 2008, Raaijmakers et al. 2008, Bubeck et al. 2012). This suggests that the “emotional components of risk perception have a direct relation with the actions, behaviours and activities of people living in high risk areas” (Miceli et al. 2008:117). Miceli et al. (2008) argued that the positive association between feelings of worry and protective behaviour indicated that emotions, and in this case, fear would lead to an adaptive function to deal with the consequences of threatening events. Fear is described as an “emotion experienced in anticipation of some specific pain or danger” (Farlex, 2015a). It is seen as a response to a real or perceived immediate threat, and relates to the feeling of being afraid. It therefore differs from anxiety; the expectation of future threat.

The study highlights the importance of the ‘Affect’ heuristic theory in understanding perception of risk based on previous experience and the subsequent positive effect on preparedness, which includes actions taken by an individual before and during a flood event (Raaijmakers et al. 2008). Thus in the context of this research, using the ‘Affect’ heuristic theory to understand risk perceptions and in particular the emotional components of risk perception to understand the response to flood risk is an appropriate approach to framing the research. It is also important because the relationship between previous experience and preparedness was not seen amongst ethnic minority groups in the UK with flood experience abroad (Section 2.3.9), and thus research on migrant ethnic minority groups using this framework may provide a greater insight into the risk perceptions of these groups.

### **2.3.9 Ethnic minority groups and risk perceptions**

Research in the USA has indicated that “for many but not all environmental risks, members of ethnically diverse groups seem to have heightened perceptions of risk (Vaughan & Nordenstam, 1991:42), which can be related to unequal prior experiences with the hazards themselves (Gaillard et al. 2008). These findings have not been replicated across all studies.

Robertson (2004) explored risk perceptions amongst ethnic minority groups (Sikh, Hindu, Bangladeshi Muslim) living in at-risk areas in the UK, based on their previous flood experience abroad and how this affected their attitude to risk communication information in

general. The results indicated that certain ethnic minorities who had experienced flooding in their country of origin, had different risk perceptions in the UK which affected their engagement with risk communication information as they believed the risk of flooding was lower in a developed, technologically advanced country.

There was a lack of awareness of flood risk in the UK amongst participants, and as they had no flood experience in the UK, they were unable to imagine flooding in the area. However, participants recalled their flood experiences in their countries of origin, or the stories that they had been told by elders, and this may be seen as linking ‘availability’ and ‘affect’; the images most easily recalled are tagged with affect. The flooding images from abroad were compared with flooding in the UK. It was found that due to the differences in flood magnitude and damage caused in the UK compared to abroad, they did not take UK floods as seriously and this reduced their perception of flood risk in the UK; “images of disastrous flooding, with houses washed away and a high death toll are easily brought to mind by the interviewees, but people cannot visualise themselves as victims of the less dramatic flooding in the UK” (Robertson, 2004:37).

This was emphasised by a participant who stated: “many of them have seen flooding in India and Pakistan, in the Punjab. Their definition of a flood in Asia is when they see dead bodies and dead animals floating past their house, and large masses of water coming to them, unless they see this it is just the ordinary up and down of the river, unless they see dead bodies, there is no flood. So in this country, when water is just running through the streets they do not see it as a flood” (Robertson, 2004:38). Therefore the flood risk communication programme from the Environment Agency which aimed to inform people of potential risk, persuade them to take self help actions to mitigate the effects of flooding and to inform them of warning systems was meaningless because these messages conflicted with individual’s mental models of flood risk.

Furthermore, participants expressed a positive ‘affect’, where they felt safe in the UK because they were living in a technological society. ‘Safe’ is defined as being secure from the threat of danger, harm or loss (Merriam-Webster, 2015). This can be related to the research by Miceli et al. (2008) which found that ‘affect’ is a casual factor in risk perception. Yet where Miceli et al. (2008) found that worry led to fear and therefore protective behaviour because the negative emotion increased risk perception and potentially adaptive behaviour (Terpstra, 2011:1659), in the research by Robertson (2004) ethnic minority participants were not worried when they thought of flooding in the UK compared to severe flooding in South Asia, and therefore felt safe. This led to a lower perceived need for information, and people were not motivated to take notice of flood information that they received. This is related to the ‘Affect’ heuristic theory where individuals interpret hazard

experiences differently based on the emotions that the experience evoked; “if negative affect is experienced when making risk judgements, the perceived risk should increase...moreover positive affect should decrease perceived risk” (Terpstra, 2011: 1659).

Thus, Robertson (2004) argues that although Kates (1962) highlighted that flooding needs to be experienced to be believed, this belief does not transfer to a different location which is perceived to be safer; “experience of severe flooding in one place does not mean the perception of flood risk remains the same in another place. Whilst experience normally leads to heightened risk perceptions, when it is tempered by the affective emotional response of feeling safe, the perception of risk is reduced” (Robertson: 2004:57). This is important in the context of this research as it argued that previous experience abroad may also decrease the risk perceptions of migrant ethnic minority groups, subsequently affecting their response to flood risk in England. This has not been explored in existing research.

## **2.4 Intergenerational communication**

This section will discuss how flood risk perceptions and indigenous knowledge may be transmitted intergenerationally. This may occur through the social amplification of risk framework but in the context of this research, the social network contagion theory may be more applicable.

### **2.4.1 Intergenerational transmission of risk perceptions**

It must be considered that there may be transmission of flood risk perceptions and flood knowledge based on previous experience abroad between migrant generations in England. This is based on existing research which has highlighted the transfer of risk attitudes between parent and child, and more recently between migrant generations. Dohmen et al. (2006) found that “attitudes towards risk are determined to a substantial degree by an individual’s parents” (Dohmen et al. 2006:1). Their research indicated that there was a strong intergenerational correlation in relation to willingness to take risks regarding health, career, sports and leisure, financial matters and car driving. It was argued that “parents are modelled as actively or passively instilling children with attitudes, preferences, and beliefs similar to their own, thereby leading to similar behaviours across generations” (Dohmen et al. 2006:4).

A German study which addressed the concept of risk attitudes amongst migrant generations did not report similar findings. First generation immigrants were born abroad, while second generation immigrants were foreign nationals born in Germany. The study focussed on willingness to take risks in specific contexts of life: driving, finances, career and health (Bonin et al. 2010). The results indicated that there were gender differences between migrants and natives in their willingness to take specific risks. Migrant women were more

risk averse than their native western counterparts in relation to driving, sports, leisure, career and trusting strangers, whilst migrant men were not. It was argued that this may have been due to their underexposure to these domains of life and potentially because there are “different distributions of risk preferences in the source and destination country populations for example due to cultural differences” (Bonin et al. 2010:1581).

Thus notions of risk and what individuals see to be a risk will vary, as was seen in the research by Robertson (2004) and this may be explored further within the disasters literature where there has been a movement away from trying to quantify loss to ‘perception of loss’ (Bradshaw, 2013:5). It has been argued that the discourse of disaster will vary over time and space and is gendered. This was evident in a quote from a young man who spoke about methane plumes under the town where he lived: “My dad says this is a disaster. He goes on and on about his business losing money and the government not doing much to help...mom? She thinks it’s a disaster but not like dad does. She thinks we could all end up dead or something...I don’t know. It seems to me like a flood or earthquake like in San Francisco is a disaster...I did say yesterday that if my fiancée moved because of the gases it would be a big disaster. I don’t have a car right now” (Kroll- Smith & Gunter, 1998:165). The quote highlights the subjective notion of a disaster and the gender and generational differences in terms of how the same event and the word ‘disaster’ may be understood.

Risk is a key component within the disasters literature and at the global level the risk of disaster is said to be increasing (Bradshaw, 2013:15). The world may be seen to be becoming more risky because of the changes in how events are perceived as ‘risk’ (Bradshaw, 2013). “What is seen to be a risk will be influenced by external factors and events, and is subjective, not objective” (Bradshaw, 2013:17) and may differ by gender, age (Bradshaw & Linneker, 2014) and ethnic group (Finucane et al. 2000b, Robertson, 2004). Nathan (2008) explored the subjective understanding of risk through a study of a community built on steep mountains and ravines in La Paz. Participants were asked about landslides and the potential collapse of their homes, but they denied the risk and reported that they felt secure. Instead they focused on issues such as health problems, interpersonal security and their struggle to earn and secure a living. The research therefore suggested that people tend to prioritise some risks over others (Bradshaw, 2013:149). If the risk is not constructed as a threat by society then it is not seen as a risk. This may be important in understanding whether flooding is seen as a risk by first generation migrants in England and communicated to second generation migrants, or if a flood event in England may be understood and responded to differently across different migrant generations.

The research by Bonin et al. (2010) also indicated that “first generation immigrants were less willing to take risks ‘in general’ compared to German natives” (Bonin et al. 2010:1585).

Additionally, second generation migrants were “undistinguishable from Germans with respect to risk attitudes and hence intergenerational transmission of risk preferences was weak” (Bonin et al. 2010:1585).

The existing research on intergenerational transmission has focused on transfer of academic values from parent to child (Gniewosz & Noack, 2011), individual attitudes to communicating with other generations (Williams et al. 1997, Giles et al. 2008), the transmission of trauma across generations (Lev–Wiesel, 2007, Braga et al. 2012), and the intergenerational influences on waste management programs (Maddox et al. 2011). There is no evidence of research on whether there is intergenerational transmission of flood risk perceptions based on flood experience abroad amongst migrant ethnic minority groups in England or whether this is gendered. This is important because if previous experience abroad leads to lower flood risk perceptions, and this negatively affects response to flood risk amongst first generation migrants, then transmission of these risk perceptions to subsequent migrant generations may also inform their response to flood risk.

This transmission of risk perceptions may occur through intergenerational communication of narratives of previous flood experiences. This is based on research by Robertson (2004) which found that mental models of flood risk amongst ethnic minority groups in the UK were influenced by direct or mediated experiences of flooding in their motherlands. There were individuals who recalled flooding in their motherland when they were younger, whilst others recalled narratives they were told by elders who had experienced flooding themselves. This has not been related to the communication of flood experience narratives between migrant generations in England, their risk perceptions and subsequent response to flood risk.

#### **2.4.2 The communication of indigenous knowledge**

Research in the UK (McEwen et al. 2012) and abroad (Deken, 2007) has also suggested that the communication of flood narratives may include indigenous knowledge relating to flood management. Indigenous knowledge has varied meanings such as local knowledge, traditional knowledge, indigenous technical knowledge and traditional environmental knowledge. It is a body of knowledge existing within or acquired by local people over a period of time and passed through generations. It is distinguished from scientific knowledge which is associated with western technology and techniques. Yet this is seen as a subjective interpretation as differentiations can be challenged because all knowledge can be indigenous, cultural or ethnic. It may be assumed that mainstream scientific knowledge is structured and global in nature, whilst indigenous knowledge is locally bound, culture and context specific, non formal and orally transmitted, closely related to survival and subsistence, dynamic and based on innovation, adaptation and experimentation (Mavhura et al. 2013).

McEwen et al. (2012) discussed the importance of narratives and flood memories to increase community resilience within flood risk areas in the UK. It was highlighted that individual and collective experiences of local flood histories and their inter (vertical) and intra (horizontal) generational communication would lead to a sustainable flood memory related to effective flood risk management. The research indicated the growing importance of communicating informal, local and indigenous knowledge in flood risk management: “My thought is that this is the third flood bank, and year after year it seems to want making higher, so obviously the flooding situation is over the years getting worse, and I think experiences from the previous floods is quite a benefit for the next generation to understand” (McEwen et al. 2012:3).

The importance of indigenous knowledge for disaster management has long been recognised in the developing world (Shaw et al. 2006). Deken (2007) explored local knowledge on flood preparedness in rural communities in Nepal and Pakistan. “Information was collected in regards to people’s capacity to observe, anticipate, adapt to, and communicate about flood risks” (Deken, 2007:35). The local knowledge used by the community in Nepal was used to reduce disaster risks. This included local environmental and historical knowledge. The locals had knowledge about the history and nature of floods in their local community based on daily observation of the surroundings, experience of floods and “accumulated understanding of their environment through generations” (Deken, 2007:36). This was seen to be important as past experience and understanding of floods would influence current understanding.

There was also local organizational knowledge, as “people planning, monitoring, and assessment capacities are based on various trade-offs, perceptions, beliefs, and past experiences of floods” (Deken, 2007:36). People anticipated floods through observing and interpreting local environmental warnings. This included the colour of the clouds or the water. Subsequently they determined when to leave the house in case of flood risk. They also had technical local knowledge, which involved measures related to house construction and protection measures for walls, elevated walls, drinking water and transportation. Non technical local knowledge involved measures related to spatial and social mobility, such as relying on neighbours and relatives, food security and regulations on grazing and deforestation. The local communication strategies in Nepal involved oral and written communication about past and upcoming floods and local early warning systems that included whistling, shouting and running downhill to warn others.

In Pakistan, adaptation strategies were developed to increase resilience to flash floods. Knowledge about flood preparedness was transmitted orally through learning by doing, daily observation of their local surroundings, storytelling, and the internalization of certain practices over generations. The dissemination of this knowledge occurred at two levels;



among community members (i.e. early warning of upcoming floods) and between generations (i.e. transmitting knowledge and lessons learnt of previous flood events.)

Thus it is evident that communication in certain rural flood risk areas abroad not only includes narratives about past flood experiences, but also the transmission of indigenous knowledge on flood risk management and protection approaches between generations. It may be said that indigenous knowledge has an increasing importance in flood prone communities both in the UK and abroad.

It must be considered that as communication of indigenous knowledge is such an important flood risk management approach abroad, first generation migrants may continue to impart this indigenous flood knowledge to future generations in England. This may be related to second generation migrants asking elders for advice about the management of flood risk. It is therefore argued in this research that communication between generations may not only involve narratives of previous flood experience but also the transmission of indigenous flood knowledge from abroad to migrant generations in England. This is important because second generation migrants may follow the indigenous knowledge from abroad which may be inappropriate in the UK as opposed to following the protective measures advised by the Environment Agency. This has not been explored in existing research.

#### **2.4.3 The social amplification of risk framework**

The intergenerational communication of previous flood experience and indigenous knowledge, and how this may influence flood risk perceptions and subsequent response to flood warnings may be explored within the social amplification of risk framework (SARF).

The basis of SARF is that risk events will be localised in their impact unless humans observe and communicate them to others (Kasperson et al. 2010) (Figure 2.04).

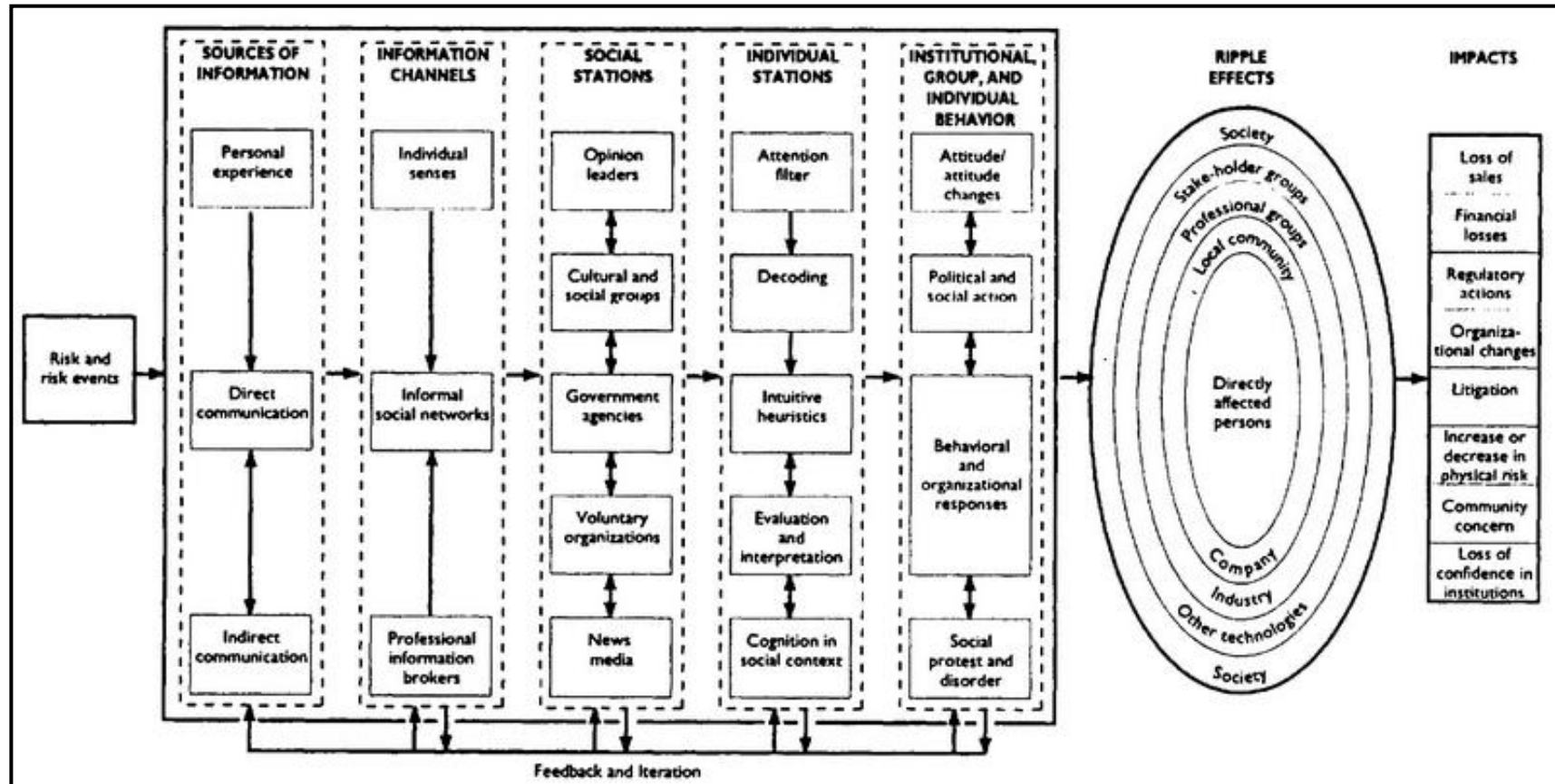


Figure 2.04 Social amplification and attenuation of risk (Kasperson & Kasperson, 1996)

Thus SARF involves a hazard or risk event being known through direct experience or communication. This communication involves the risk event being portrayed through risk signals, such as images, signs and symbols. These signals are “messages about a hazard or event that affect people’s perceptions about the seriousness of the risk” (Kasperson et al. 2010:321). There are multiple communication networks through which risk information may flow such as the mass media and personal networks of neighbours, friends and family. In the context of this research this may be related to the intergenerational communication of flood experience from abroad.

Within the framework, the risk signals (messages) interact with a range of psychological, social, institutional or cultural processes in ways which intensify or attenuate perceptions of risk and thereby shape risk behaviour at the individual level (Breakwell, 2000). This means that the risk signals create risk representation but this is transformed as the signals filter through social and individual amplification stations (Gierlach et al. 2010). The individual stations of amplification are affected by risk heuristics, the qualitative aspect of the risk, prior attitudes and issues of blame and trust. The risk representations may stimulate changes in behaviour at the individual level. In this research this may be related to how individuals respond to flood risk. The second stage of the framework outlines that any behavioural response will have secondary impacts called ripple effects. These effects include impacts on the economy, social pressures, community conflicts, and mental images and attitudes.

It is recognised that there are critiques of SARF such as the use of the amplification metaphor which implies that there is a baseline ‘risk’ which is distorted by the social process of amplification (Rayner,1988). Yet it has been highlighted that the framework is not intended to imply a single true baseline. It has also been argued that the communications model on which SARF is founded emphasises an overly simple conceptualization of risk communication; as a one way transfer of information (Handmer & Penning Rowsell, 1990). Kasperson et al. (2010) argue that the framework recognises the development of risk perceptions as always likely to be “the product of diverse interactive processes among the parties to any risk communication” (Kasperson et al. 2010: 339).

This conceptual approach to risk communication appears relevant for understanding the transmission of risk perceptions across migrant generations. However, further research has indicated that parallels to SARF may be drawn with the ‘social network contagion theory’, and this may apply more specifically to the intergenerational transmission of risk perceptions amongst migrant ethnic minority groups.

#### **2.4.4 Social Network Contagion Theory**

Risk perceptions have been studied as individual cognitive mechanisms, where individuals collect, process and form perceptions of risk unconnected to a social system. Where there is recognition of social aspects such as the media, this has been treated as a source of information which may be influential, but subordinate to individual cognitive processes in forming risk perceptions. The individual level theories have not been seen to explain how perception of risk can vary between or within communities, or as is important in this research, how community members influence how individuals regard a particular risk.

This has been addressed within the network theory of contagion which suggests that it is not the source of information, but the social linkages in communities that are important in focusing risk perceptions; “it is the relational aspects of individuals and the resulting networks that influence individual perceptions and build groups of like minded individuals” (Scherer & Cho, 2003:261). These social units function as attitude, knowledge or behavioural structures which facilitate or constrain the flow of information and influence to individuals within the network.

The social network contagion theory therefore suggests that an individual’s perceptions are influenced by the perceptions of individuals in their social network; “individuals adopt the attitude or behaviours of others in the social network with whom they communicate” (Scherer & Cho, 2003:262). The theory does not suggest that there is intent or an awareness to influence, only that communication takes place. Thus in this research, intergenerational communication about previous flood experience via narratives may lead to second generation migrants being influenced by the flood risk perceptions of first generation migrants.

Furthermore, involvement within social networks is seen to be an important factor in whether risk perceptions are shared. Scherer & Cho (2003) explored whether the dyadic similarity in risk perceptions is related to the strength of the network tie. Their hypothesis predicted that the more frequent the communication between two actors, the more similar their attitudes are likely to be. Their results indicated that “the strength of the dyadic interaction is a significant predictor of dyadic consensus or perceived level of risk” (Scherer & Cho, 2003: 266). Thus individuals are more likely to share risk perceptions if they have frequent contact with each other.

This is especially important in this research when it is considered that many migrant ethnic minority groups have strong social networks which involve frequent contact with friends and generations of kin and this may encourage communication and risk perceptions to be shared. These social networks consisting of a collection of relationships and social ties are often initiated by the migration process itself; “migration is rarely an isolated decision pursued by

individual agents, but rather a collective action involving families, kinships and other communal contacts” (Ryan, 2009:220). Research has suggested that pioneer migrants aim to seek out communities where there are individuals from similar origins because they are reassured by familiar norms and attitudes. Thus they will settle in areas where there are existing concentrated residents (Kobrin & Speare, 1983, Mayer, n.d).

This chain migration of relatives and friends often leads to extensive network formations. Essential elements of these networks include visiting relatives and friends to reinforce kinship ties, especially amongst first generation South Asian migrants (Ghuman, 2003). The lifestyles of first generation immigrants are understood to usually be close to those in their country of origin. This may include networking and social interactions and the duty of children to their parents. Thus ethnic minority households are also more likely to be extended families and involve multigenerational households (Weeks & Cuellar, 1981, Lindell & Perry, 2004). Through these actions it has been found that “different ethnicities are more deeply immersed than the majority in kin and friendship networks and community participation” (Lindell & Perry, 2004: 90).

The strong social networks of ethnic minority communities have been linked to facilitating the social context of warnings; “citizens do talk about hazard issues and relay information amongst themselves and this suggests that messages sent into communities will be relayed among residents through informal networks, consequently enhancing community coverage” (Perry & Nelson, 1991:584). The kin and friendship networks are related to the warning dissemination process; “the greater the frequency of contacts with kin, the more likely one is to receive additional warning information” (Tunstall, 2000:9). This highlights the importance of social networks for risk communication. This is important because having contact with the ethnic community means the likelihood of receiving warnings increases, and similarly, in this research, frequent contact with migrant ethnic minority networks may mean that intergenerational communication and transfer of risk perceptions is more likely.

Thus in the context of this research, SARF and the social network contagion theory have been discussed and have been found to be interesting as they may inform our understanding of the intergenerational transmission of flood risk perceptions amongst migrant ethnic minority groups. Although SARF is applicable as it involves the communication networks through which risk information may flow, the social network contagion theory is believed to be more relevant because it relates to social communication and how individuals within the same community may have similar risk perceptions, and consequently this may be related to similar risk perceptions across generations.

The Cultural Theory of risk perception was also discussed earlier and it may be relevant in this research as it relates to similar risk perceptions across generations through the process of

enculturation. However this theory has been discussed as not being appropriate in this research based on its low explanatory power and difficulty in categorising individuals into different 'ways of life' especially because individuals adhere to different cultures in different situations.

Therefore based on existing research which highlights that there are strong social networks within migrant ethnic minority groups, the social network contagion theory, which relates to the social linkages in communities in focusing risk perceptions, is considered most appropriate for understanding how previous flood experiences may be shared intergenerationally via narratives and how this may lead to the transfer of risk perceptions from first to second generation migrants. This theory will therefore be taken forward in this research and be used to frame the thesis and understand the results in terms of the intergenerational communication of flood experiences and the transmission of flood risk perceptions.

Scherer & Cho (2003) also indicated that individuals who are not in frequent contact are less likely to have the same information about a topic and are less likely to share similar attitudes and beliefs. Thus if there is less contact between migrant generations, then intergenerational communication may be limited and risk perceptions and response to flood risk may not be influenced. The distance between migrant generations may be due to the acculturation process and is discussed further in Section 2.6

## **2.5 Gender norms and disaster**

This section will discuss how decisions may be made in the home in response to flood risk, and how this relates to who may have the strongest voice in the home. This will be related to the social reproduction of gender norms and patriarchal control as well as the gendered impact of disasters in the developing world and how these issues may also be relevant within ethnic minority households in England.

### **2.5.1 The strongest voice in the home**

There is a large body of literature on migration (De Haas, 2005, Castles & Miller, 2009, Castles, 2010, Levitt & Lamba-Nieves, 2011, Czaika & De Haas, 2013) and within that there is a growing body of literature on gender and migration. This may relate to how gender may influence global migration (Piper, 2005, 2008), the impact of male migration on women (Gulati, 1993), women's stories of migration (Ryan, 2002), remittances in the context of gendered migration (Kofman, 2006), the impact of migration on men and masculine identities as well as women and feminine identities (Ryan & Webster, 2008), the impact of collective stigmatization on Muslim women in Britain (Ryan, 2011), migrant women and post migration networks (Ryan, 2007) and gender and labour migrations (Kofman &

Raghuram, 2006). There is also a recent focus on important issues such as gendered migration and social reproduction. This includes the role of migrant women in care chains, and the contribution of care work to social reproduction (Kofman, 2012, Kofman, 2014, Kofman & Raghuram, 2015). This research will aim to add to the gender and migration literature through providing new information on the enforcement of gender norms within migrant households and new insights around how this may translate in practice, through an exploration of how this relates to women's practical response to flooding.

The concept of intergenerational flood risk communication and subsequent response to flood risk requires an understanding of how decisions may be made in migrant ethnic minority households. It is argued that this may be related to traditional social and gender norms, which are transmitted from first to second generation migrants, and influence who has a voice in the home.

Migration presents several challenges for first generation migrants, including the loss of family support, social networks and language barriers (Renzaho et al. 2011). One of the main issues is the threat to the continuation of migrants' identity and culture because "while second generation migrants may more easily accept new cultural values and practices, older members of immigrant families may want to maintain norms and values of their culture of origin" (Merz et al. 2009:292). This may be related to the acculturation gap (Choi et al. 2008) as discussed in Section 2.6. This means that "families fear loss of identity and feel the need to continue culture and practices from their homeland" (Meetoo & Mirza, n.d: 22).

Hence within migrant ethnic minority communities, there is an emphasis on cultural socialization and transmission of culture to ensure transmission of ethnic and cultural values to the next generation (Dasgupta, 1998). Parents transmit ethnic identity to their children using a process of enculturation or ethnic socialization. "Parents indirectly model and reinforce ethnic behaviours in addition to directly teaching their children about the traditions, beliefs and values associated with their cultural background" (Farver et al. 2002:339).

Thus cultural transmission is a process of social reproduction which is described as the "activities, behaviours and emotions, responsibilities and relationships directly involved in the maintenance of life on a daily basis and intergenerationally. Social reproduction includes how food, clothing, and shelter are made available for consumption, the care and socialization of children, the care of the infirm and elderly, and the social organisation of sexuality" (Lorber, 1994:174, Kofman & Raghuram, 2015). Social reproduction involves different forms of work, mental, manual and emotional which are aimed at providing historically, socially, and biologically defined care to maintain life and reproduce the next generation (Lorber, 1994). One part of social reproduction involves passing on cultural

capital to children, in which a culture's technological knowledge and behavioural patterns, style of life, and ethnic and religious rituals amongst other things are transmitted (Lorber, 1994). The transmission of culture is reliant on intergenerational processes (Nauck, 2001, Bowen et al. 2011) and family is the basic unit by which 'culture' is transmitted to the next generation (Gupta 1999).

These traditional beliefs may be related to the collectivist (eastern) culture where the needs of the group are seen to be important, involving interdependence, family obligation and solidarity, filial piety, and respect for the elderly. This is in opposition to the individualist (western) culture where an individual's goals are emphasised over group goals, and there is considerable value on independence and self reliance (Renzaho et al. 2011). Thus transmission of cultural beliefs within the collectivist culture may involve emphasis on group interdependence, the extended family, and conformity to social group norms such as obedience to and respect for elders and traditional gender roles (Farver et al. 2002, Renzaho et al. 2011).

The cultural transmission of norms relating to respecting elders is important in this research because there is a focus on established migrant communities and thus first generation migrants may be seen as generational elders within households. In many ethnic minority communities, elders hold a hierarchical position both within the household and community. This is because their life experience and knowledge is valued and they are seen to provide a link to ancestors and traditions (Williams et al. 1997). Thus elders hold a position of authority and have an important say in family life in immigrant communities (Merz et al. 2009:293). Their hierarchical position means that elders expect respect and obedience from the younger generations (Ghuman, 2003:16, Merz, 2009). In many non western societies, "families are structured to encourage obligation, dependence, and obedience to parental figures" (Stuart et al. 2010:122).

Additionally, gender norms within many ethnic minority communities are based on traditionally unequal power dynamics between men and women and are revealed in the division of labour and resources, ideas and representations and "the ascribing to women and men of different abilities, attitudes, desires, personality traits and behaviour patterns" (Agarwal, 1997:1). These hierarchical power relations relating to domination and subordination between men and women are related to patriarchy, which is a "system of unequal social, sexual and economic relations between the sexes, which produces and maintains men's authority and power over women" (Bradshaw & Fordham, 2013:7). These power dynamics provide the basis for gender inequalities in the household (Agarwal, 1997) and influence the ability of women to make decisions (GSDRC, 2014).



The origins of male dominance may be connected to the struggle over women's productive and reproductive labour. Male control over this was intensified as societies based on class and private property emerged, and accumulated property was transferred from father to son in many regions in South Asia. The possibility of breaks in patrilineal transfer of property due to illegitimate children was seen as a threat to the social structure. Therefore, women's sexuality was strictly controlled and regarded as unruly and dangerous (Wilson, 2006). Thus in many South Asian societies, where there is fear of outside influences, social reproduction involves aspects of patriarchal control, where women are seen as the property of the family and the community. The idealisations of a woman's sexual behaviour may be enforced through dress codes and cultural notions of right and wrong (Brandon & Hafez, 2008:4). Women may also be encouraged to internalise the perception of women's sexuality as dangerous through the notion of 'sharam', which means shame. Sharam is seen to discourage women from crossing patriarchal boundaries and breaking out of moulds of femininity (Wilson, 2006:12). Subsequently a 'good woman' is someone whose sexual behaviour conforms to established patriarchal rules, while a 'bad woman' is seen as sexually available (Wilson, 2006:11). Through these patriarchal notions, men are able to assert their rights to be leaders of society at the expense of women and this male domination leads to the subordination of women to her husband and other male relatives; "a woman is regarded as belonging first to the men in her family, then to the men in her husband's family but never to herself" (Wilson, 2006: 9).

Thus female sexuality is seen to be closely connected to the consolidation of patriarchal property; it is both a danger to it and yet essential to preserve it through reproduction. The link between these two is honour which is linked to prestige, reputation and male ego (Wilson, 2006). Honour may be termed 'izzat' within Pakistan, India and Bangladesh and refers to the collective honour of a family or community. The behaviour of women within this group is one of the main threats to izzat (Brandon & Hafez, 2008:7). Therefore izzat is seen to be essentially male, "but it is women's lives and actions which affect it most. A women can have izzat but it is not her own, it is her husband's or her father's. Her izzat is a reflection of the male pride of the family as a whole" (Wilson, 1978:5). The is expressed in a quote from a woman living in the Pakistani village of Jhelum: "If a man has a daughter, she must be properly dressed, married at a reasonable age, taught to behave modestly in the presence of strangers. All these things are related to the izzat of the girl - saving her izzat (and through that their own izzat) is perhaps the greatest responsibility of her parents" (Wilson, 1978:5). Thus if there is any hint that a woman has broken the patriarchal rules, this is seen as damaging the izzat or honour of the family.

The concepts of honour and shame are extremely strong within South Asian communities, and are seen to change but are still present in the migration context. Research in the UK on South Asian immigrants highlighted that there are several ways in which an individual can bring shame and dishonour on themselves and their family. This may be through defying parental authority, especially when elders are expected to control their children. Women having sex or relationships before marriage can lead to a decline in social standing. The use of drugs or alcohol can also bring shame on a family as can becoming 'western' or 'modern' in terms of clothing, behaviour and attitude (Section 2.2.9). This is because ideas of honour may be transformed into pride in one's origins and religion. Thus children who assimilate into the wider society may be seen to be betraying their origins. Finally, honour may be damaged less by an individual's actions than by knowledge of that action becoming public knowledge. Gossip and rumours, even if untrue can damage the status of individuals and families. Thus families may be less concerned with the immoral act than with how this will affect the way they are seen by relatives and the community. Honour is seen as an intangible asset dependant on a community's perceptions, and therefore the "immoral act does not become shameful or dishonourable until it becomes public knowledge" (Brandon & Hafez, 2008:7).

The fear that the honour of the family may be affected by the westernisation of women, especially through outside influences (Brandon & Hafez, 2008) has led to the need to uphold values and identity from the homeland within immigrant communities. The form patriarchy takes can change but may not lessen (Bradshaw, 2013:43) and patriarchal practices may be amplified for migrant women in western countries (Meetoo, & Mirza, n.d:14). This may be "through regulating female behaviour, by ensuring that she maintains the group's ethnic identity through mixing with her own" (Meetoo & Mirza, n.d: 22). The traditional gender roles which are related to socially constructed norms that determine the behavioural expectations of men and women may be enforced (Alam, 2014). They determine how men and women may think, speak, dress and interact within the context of society in a particular culture, including restrictions on education, employment and marriage (Section 2.2.9).

Thus migrant ethnic minority households in England may be influenced by traditional social norms and customs leading to potential inequalities between men and women in the home (Bruce, 1989). These traditional hierarchical and gendered norms and subsequent household power inequalities may influence who can make decisions in the home: elders and men.

This is because decision making within migrant ethnic minority households may be related to the 'bargaining theory' within economic literature. The bargaining theory emerged after initial theories focused on households as a single utility function, where the preference of the household head was maximised. It was assumed that individual's preferences were identical

and could be aggregated or a powerful member of the household (head) could impose his preferences on other members of a family. This led to the ‘exploitation’ and ‘altruism’ theories which had similarities in creating a single joint utility function to represent the household. In both cases, goods were allocated to others either by democracy (altruism) or exploitation (Lawrence, 2003). These approaches were criticised because household utility functions are interdependent and individual’s preferences cannot be aggregated. Within the bargaining theory, there was an understanding that households cannot be treated as a homogenous unit and instead family members have different preferences. Therefore decision making occurs through bargaining and negotiation such as between husband and wife or between parent and child.

Agarwal (1997) argued that inter-household interaction related to the bargaining approach has characteristics of conflict and cooperation. This is because bargaining power, the capacity to negotiate, is not equally distributed between members. Their bargaining power is defined by their fallback position which is the outside options that determine how well off an individual would be if cooperation failed. Thus due to differing bargaining powers, the outcomes of cooperation in a household may be more favourable to certain members than others, leading to underlying conflict.

In the context of this research traditional social norms within migrant ethnic minority households can affect the bargaining power of an individual. The social norms define what can be bargained over and what is uncontestable; “that which is accepted as a natural and self evident part of the social order, which goes without saying and is not open to questioning or contestation” (Agarwal, 1997:15). It has been highlighted that a “good deal of what is justified in the name of tradition would fall in this category” (Agarwal, 1997:15). Thus social inequalities such as elders making decisions in the home or older women having more say than younger women may be seen as ‘uncontestable’ social norms because they cannot be bargained over. Hence, younger individuals and especially women may already have less bargaining power because of inequality in social norms and gender roles, but because these norms are uncontestable they cannot bargain over them. Therefore males over females or older over younger individuals may be favoured when making decisions as they have more of a voice in the home and greater bargaining power.

These social norms also affect bargaining power because they “define the extent of voice a person has within the household” (Agarwal, 1997:17). The social norms are mediated by gender, age and marital status, thus they define how household members conduct themselves, either overtly or covertly. The perceptions around social norms influence the capacity of women to have a voice in decision making processes (Bradshaw, 2013). Moreover, in many cultures, assertive behaviour may be tolerated in boys and men as

opposed to women and girls. Furthermore, assertiveness is more tolerated in older women than younger women, and daughters than daughters in law. This highlights the expected differences in male and female behaviour, but it also highlights that gender itself is not homogenous; gender intersects with age and there are differences between older men and women compared to younger men and women and whether they have a voice and are listened to. These gendered norms, namely the cultural construction of appropriate female behaviour affects their ability to bargain.

Thus the traditional unequal social and gendered norms within ethnic minority households may limit the bargaining power of individuals, especially amongst women and younger women in the household. This ultimately affects whether they have a voice in the home and are involved in decision making.

This may be further seen by exploring the work of Sen (1985) who focussed on inequality and poverty. Sen (1985) argued that the literature on inequality was too focussed on income and instead should be directed towards the real freedoms that people have for leading a valuable life. This related to their capabilities to undertake activities such as reading, working or enjoying states of being such as being healthy or literate (Robeyns, 2003). This was the 'Capability Approach' which is "a broad framework for the evaluation and assessment of individual well-being and social arrangements, the design of policies, and proposals about social change in society" (Robeyns, 2005:2). This approach was used to evaluate aspects of wellbeing including inequality and focused on what people are able to be and do as opposed to what their income is and what they consume. In doing so, evaluations and judgements are focused on a person's capabilities, which is their potential functioning's and these are beings and doings. Functioning is what is done and capability is the freedom to do it (Iverson, 2003).

Sen (1985) discussed that gender inequality may be approached from the same direction, by looking at the functioning's and capabilities of individuals. Robeyns (2003) explored how the Capability Approach could be applied to conceptualising and assessing gender inequalities in western societies. It was argued that gender inequalities, "in achieved functioning's implies inequality in capabilities" (Robeyns, 2003:39). This means that what can be achieved may be affected by the freedom an individual has. This may be related to ethnic household decision making and inequalities in capabilities (freedom) between different genders because of unequal power relations (gendered norms). This affects the functioning of women, which may be their ability to make and follow through with decisions because they may not have a voice (capabilities, freedom to speak and be heard) in the household and have to listen to elders or men.

Sen (1985) also argued that in terms of the bargaining position of women in the home, “outside earning can provide psychological and practical leverage for women by offering them a better fallback position” (Bruce, 1989, 983). This outside earning can be in the form of income, education and training and social networking which can determine women’s position in the family and wider society (Bruce, 1989). The “educational attainment of women... influences the economic and social position of women in society and their decision making power” (Lawrence, 2003:12). This is further supported by Agarwal (1997) who states that “women’s bargaining power in the home is clearly associated within their situation outside it” (Agarwal, 1997:28). This suggests that although decision making within migrant ethnic minority households may be under the control of elders and men, there is potential for change as social norms evolve; “household decision making is not a static phenomenon but evolves with economic groups, changing social norms and customs and changes in the institutional environment” (Lawrence, 2003:5).

Bargaining theory and specifically bargaining power will be used in this research to understand how traditional social and gender norms as part of patriarchal control may affect the extent to which women have a voice in the home to make decisions and how this may change across migrant generations as a consequence of acculturation and ‘outside earning’.

### **2.5.2 The gendered impact of disaster**

There is also existing research which has indicated that the everyday social construction and reproduction of gender roles and relations and the associated inequalities in power affect the vulnerability of women and girls in disasters in the developing world. It is recognised that the definition of women and girls is contested; women may be identified as young women, women or the elderly, while girls may be considered as the girl child, adolescents or young women (Bradshaw & Fordham, 2013).

Wisner et al. (2004) defined vulnerability as the capacity of an individual or group to anticipate, cope with, resist, and recover from the impact of a natural or human made hazard. This vulnerability is caused by lack of access to resources such as income, education, health and social networks which allow people to cope with the hazardous events. This access to resources may be gendered, where women may have less access to and control over resources than men because of unequal gender relations. This has been emphasised by Fordham (2001) who discussed that gender bias plays a major role in influencing resource allocation; “attitudinal barriers are deeply rooted in patriarchy-based socialization, where men are considered superior to women – a systematic disempowerment that has left women with little presence in decision-making bodies, resulting in the exclusion of their issues and concerns from the policy agenda” (Fordham, 2001:8).

Thus as Blaikie et al. (1994) argue: “Gender is a pervasive division affecting all societies, and it channels access to social and economic resources away from women and towards men...since our argument is less access to resources leads to increased vulnerability, we contend that in general women are more vulnerable to hazards” (Blaikie et al. 1994:48).

Vulnerability may also be related to the roles of men and women in society and how they should behave. Women may be seen as having several roles in the home, from reproductive roles relating to child bearing and domestic work to productive roles, involving paid work and also community management involving unpaid roles in the community (Bradshaw, 2013). The reproductive and community management roles are not valued because they do not generate an income, and this means that women are poorer and have less of a voice in the home than men. Within these households, women are more dependent on men for access to economic resources and thus they have greater economic vulnerability.

Therefore, “being a woman does not lead to vulnerability; what leads to vulnerability are the unequal gendered power relations which limit women’s access to and control over resources” (Bradshaw & Fordham, 2013:9). Not all women are vulnerable all the time; it is when gender inequalities are high that women are more likely to be more vulnerable to the negative effects of hazards than men.

Furthermore, the impact of disasters may also be gendered due to the enforcement of social constraints, which decreases the ability of women to save themselves. These constraints are based on gender and are related to the socially constructed roles of men and women and the social norms that govern what they are or are not allowed to do; “response to an event is subjective and will be framed by individual understandings of appropriate behaviour, which in turn are shaped by cultural norms, including gender norms (Bradshaw, 2013:8). The social constraints may include women having to be accompanied by a male family member when they leave their home, or facing restrictions on movement due to long hair or clothing. The social constraints may also influence the extent to which women are allowed to develop physical strength such as being taught to swim or climb trees which may be essential life saving activities in a disaster (Seager, 2006).

These social constraints were evident in the case of flooding in Bangladesh in 1991, where parents decided to leave girls at home rather than take them to cyclone shelters due to the fear that they would be exposed to harm from shared sleeping and sanitary facilities, which was a rarity in a culture of seclusion. Thus the fear of sexual abuse and harassment, and effectively being shamed and losing izzat was greater than the fear of flooding (Fordham, 2001, Plan, 2011). This may be related to the observation of the cultural norm of purdah where men are prevented from seeing women through segregation of the sexes.

Purdah may also mean that “women remain in their homes, despite cyclone warnings, waiting for a male authority figure to arrive and give them permission to leave or assist them in doing so” (Bradshaw, 2013:9). In Bangladesh, a highly sex segregated society, warning information was transmitted by males to males (a gendered warning system influenced by the masculine gendered domain of disaster management) on the assumption that this information would be communicated to the rest of the family. This did not occur and additionally, it was found that women had “comparatively less knowledge about cyclones and were dependent on male decision-making” (Fordham, 2001:21). Even if they did receive warnings, women were constrained by cultural norms that restricted their freedom of movement in public, thus many women along with their children perished as they waited for their husbands to return home and take them to safety (Fordham, 2001). These social issues, as well as cyclone shelters being ill designed and insensitive to gender and culture specific needs negatively impacted on a positive response to warnings and resulted in greater suffering amongst women than men; among women aged 20-44, the death rate was 71 per 1000, compared to 15 per 1000 for men (Fordham, 2001).

In general, gender has to be understood as it intersects with characteristics such as age, sexuality, marital status and income. In this case, vulnerability of the girls was defined by the intersection of gender with age and sexuality (Bradshaw & Fordham, 2013:10). Intersectionality is an important concept in this research in terms of understanding risk and will be discussed further in Section 2.7.

The existing research therefore indicates that disaster is not seen to be gender neutral; “in the 1991 floods in Bangladesh, five times as many women as men died” (Seager, 2006:2) and the “less economic and cultural power women enjoy before an event, the greater their suffering in the aftermath” (Enarson & Morrow, 1998:5). There is also research which suggests that cases of gender based violence are frequent and unacceptably high in disasters, with occurrences of rape and sexual abuse of women and girls being reported in the aftermath of the Haiti earthquake in 2010 (Fordham, 2011). In many cases, men may also be more vulnerable due to socially constructed gender roles as providers and protectors, leading to men displaying more risk taking behaviour than women. This may be seen in Latino cultures, where the cult of machismo means men more than women are likely to suffer loss of life during an event “due to their socially constructed roles and associated riskier behaviour patterns in the face of danger” (Bradshaw, 2013:8).

The social construction and reproduction of these gender roles have been seen to play a role in disasters in the developed world. Existing research in the UK has been limited but has related flood fatalities in Europe and the UK to the role of risk taking by men (Jonkmen & Kelman, 2005). Enarson & Fordham (2001) also explored how the social relations of

ethnicity, social class and gender increased the vulnerability of women in communities prone to flooding in the UK and USA. They found that the “gendered division of labour in the home left women disproportionately responsible for children, seniors or disabled relatives” (Enarson & Fordham, 2001:47). Women who had flooded in Scotland were also responsible for accessing food, clothing, cleaning supplies and household equipment. The flooding revealed this previously unnoticed gendered division of labour because in comparison to women, men were seen to be less impacted in their daily lives by the flooding. After the Red River valley floods in the US, women were at greater risk of personal violence as they were drawn back into relationships with partners who could help them clean and repair their homes but this meant that the abuse continued. It was found that the existing power structures exposed some residents more than others to the effects of flooding, affected their capacity to recover and engage in community reconstruction (Enarson & Fordham, 2001, Enarson & Morrow, 2008).

Research in Australia also found that bush fires were not a gender neutral phenomenon but were an important means by which traditional gender roles and power relations were maintained and socially reproduced within rural landscapes (Eriksen et al. 2010). The gendered division of roles within bushfire brigades reflected the traditional division of labour in rural communities. Bushfire management was seen to be ‘men’s business’, whilst women were carers of men by providing food, drink and first aid. There was a lack of engagement amongst women in relation to bushfire prevention, preparation and response as this was perceived to be the responsibility of male family members. These gendered roles increased the vulnerability of men as they were responsible for managing the bushfires, but women were also vulnerable due to their reliance on men, which meant they did not have the knowledge to implement systems of defence such as water pumps and hoses.

Studies in the USA also looked at the impact of ethnicity and social factors in relation to excess male deaths in the 1995 Chicago heatwave (Klinenberg, 2002). Most recently there was a focus on the gendered impact of Hurricane Katrina in New Orleans on African American women (Seager, 2006, David & Enarson, 2014). These studies discussed how the realities embedded in women’s daily lives set them up for difficulties long before the hurricane could strike. They highlighted that poverty in America was not only racialised but gendered (Ross, 2014). The poverty that leaves people more vulnerable to disasters amplifies gender. In New Orleans, 41% of female headed households fell below the poverty line (Seager, 2006). This meant they were less likely to receive information about the disaster, have a safe place to stay or have the means to leave; “poverty combines with race and ideologies about gender to produce a metric of deep disadvantage in terms of mobility” (Seager, 2006:3). Thus African American women were less likely to have a car than men



and were at a greater disadvantage. David & Enarson (2012) also discussed the impact of hurricane Katrina on the Afro- Caribbean, Chinese, Latina and Jewish communities, but there is limited literature on South Asian migrants in a post disaster context in the developed world.

It has been highlighted that patriarchal societies may be stronger in ethnic communities in the developing world and this has an impact on whether women have a voice in the home and can make decisions. The enforcement of social and gender roles is important because the daily power inequalities that individuals may face play a role in their vulnerability in a disaster; “disasters reveal community, regional and global power structures as well as power relations within intimate relationships” (Enarson & Morrow, 1998:5). They reflect the structure of the societies in which we live and the way systems in society function (Fordham & Meyreles, 2014) and therefore provide an opportunity to explore these relations and their possible consequences for disaster response and risk reduction.

Thus in the developing world, women may be restricted in the actions they can take due to social norms, such as leaving the home without male authority. This is related to issues surrounding honour and shame, which may be seen to change but not diminish in the migration context, leading to traditional gender roles being enforced in England. Studies have explored how these gender and social norms may play a role in increasing vulnerability to disasters in the developed world, but it is not known how these concepts may impact on South Asian migrant communities and their practical response to flooding in England. This research will address this gap in the literature.

## **2.6 Intergenerational Cultural Dissonance**

It has been discussed that there may be intergenerational communication of flood experiences and transmission of risk perceptions amongst migrant ethnic minority groups. This is based on involvement with ethnic social networks. However, if there is less contact with social networks, then individuals are less likely to communicate and share risk perceptions (Scherer & Cho, 2003). Thus in the context of this research it must be considered that second generation migrants may not be as immersed within the ethnic minority social networks as pioneer migrants and therefore may not experience intergenerational communication of previous flood experiences that may affect their risk perceptions and response to flood risk. This may be due to the acculturation process.

This section will explore the acculturation strategies including separation and marginalisation, assimilation and integration. It will discuss the acculturation gap and how this may influence the attitude of second generation migrants to narratives and indigenous

knowledge from abroad. The focus of the research will also be discussed in the context of ‘intersectionality’.

### 2.6.1 Acculturation theory

Acculturation is “the extent to which people from one culture adapt to or accommodate their behaviour, thoughts and perceptions to the norm of a second culture” (Rassin, 1995:29). In relation to immigrants, it may be seen as the “absorption of the host society’s cultural norms, beliefs, attitudes and behaviour patterns” (Johnson, 2004:1280). Acculturation is therefore seen as a threat to the continuation of migrants’ identity and culture (Renzaho et al. 2011) and may be even more important because acculturation further increases the fear of westernisation of women within migrant ethnic minority communities. The westernisation of women has been highlighted as posing a threat to the honour of the family (Brandon & Hafez, 2008) and subsequently there may be greater patriarchal control over women and enforcement of gender roles.

Berry (1997) stated that there are four acculturation strategies arising from two issues, ‘cultural maintenance’ and ‘contact and participation’ (Berry, 1997). ‘Cultural maintenance’ is the extent to which cultural identity and characteristics are seen to be of value and their maintenance strived for. “Cultural identity is highly determined beyond personal characteristics by social networks, especially family and peers, community, and national contexts” (Sabatier, 2008:186). ‘Contact and participation’ relates to the extent to which there should be involvement in other cultural groups. These two issues lead to a conceptual framework (Figure 2.05) which creates four acculturation strategies: Separation, Marginalisation, Assimilation and Integration.

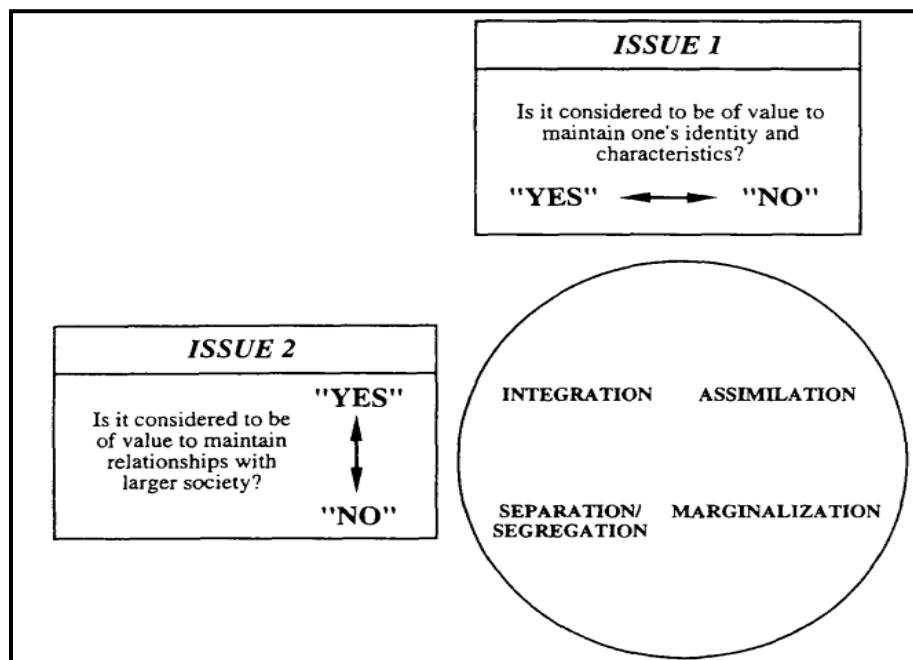


Figure 2.05 Acculturation strategies (Berry, 1997)

### **2.6.2 Separation and Marginalisation**

When an individual values holding onto their original culture, and wants to avoid interaction with others, they have a separated identity (Phinney et al. 2001a). When there is little interest in cultural maintenance and in having relations with others, this leads to 'Marginalisation'. First generation migrants may display a 'Separation' acculturation strategy if they actively move into areas where there are established ethnic groups and seek to maintain their ethnic identity and lifestyles from their country of origin. Thus they would be considered as having a high ethnic identity, where an individual's lifestyle is influenced by their ethnicity and includes being conscious of ethnic customs, traditions, symbols and group membership. Ethnic identity is considered to be a part of an individual's social identity and relates to holding strong positive ideas about one's ethnic group and having a sense of belonging to it, whilst also associating with other members of that ethnic group and conducting ethnic practices relating to food, music and language (Johnson, 2004).

### **2.6.3 Assimilation**

If individuals do not want to maintain their ethnic identity and seek interaction with other cultures, this is the assimilation strategy; "one who gives up an ethnic identity and identifies only with the new culture has an assimilated identity" (Phinney et al. 2001a). The immigrants' acquire new customs and attitudes through the process of communication and contact. Assimilation involves a gradual change with full assimilation occurring when new members to society become indistinguishable from older members. Subsequently, first generation adult migrants may have partial assimilation, but native born children may be seen as a "generation irreversibly on its way to virtually complete acculturation to native cultural values" (Birman & Trickett, 2001).

Thus in this research, second generation migrants may be experiencing assimilation; "the assimilation of immigrants and their children is hypothesized to progress with length of residence in the receiving population and, more prominently, across generations, with each successive generation, the descendants of first generation immigrants are projected to become less distinguishable from the core group in regards to their socioeconomic status, social networks, attitudes, and behaviours" (Wu et al. 2010). At this point, there is a high level of self identification amongst the migrant generations as being socially accepted members of the core group, and in relation to this research, this may limit their social interaction with their ethnic minority groups as well as adherence to generational elders and their perceptions, values and knowledge.

#### **2.6.4 Integration**

Assimilation is viewed as a one-way process by which immigrants adopt the customs and cultural practices of the host society, whereas integration is defined as a “two-way process of acceptance and cultural evolution among both the immigrant group and the host society” (Nimmerfeldt et al. n.d). If an individual wishes to maintain their original culture and interact with other groups, this is seen as the integration strategy, which occurs in multicultural societies; “there is some degree of cultural integrity maintained, while at the same time seeking to participate as an integral part of the larger social network” (Berry, 1997:10). “An individual who retains a strong ethnic identity while also identifying with the new society is considered to have an integrated (or bicultural) identity” (Phinney et al. 2001a).

It must be understood that migrant generations have to adapt their culture of origin and the culture of the new country and subsequently will develop an ethnic identity within larger society (Phinney et al. 2001b). These individuals have been socialised by parents who bring the language, values and customs of their country of origin, but they may also have been educated in the host country and subject to new customs and norms, with opportunities to interact with ethnically diverse peers (Phinney et al. 2001b). Therefore second generation migrants may form an ethnic identity influenced by these two cultures.

Thus in this research, second generation migrants may “tend to move towards integration into the mainstream culture and way of life” (Ghuman, 2003:111), which may affect the intergenerational communication process within their ethnic community, but there may be communication in the wider mainstream culture.

Thus the acculturation process, where first generation migrants may experience separation and second generation migrants experience assimilation or integration may lead to variations in the extent that an individual participates in their ethnic minority social network. This may limit whether there is intergenerational communication of flood experiences, adherence to generational elders and transfer of risk perceptions.

#### **2.6.5 Intergenerational Cultural Dissonance**

Furthermore, the acculturation process may lead to strain about lifestyles and values, and therefore increase the conflict and distance between migrant generations. This may arise due to dissonant acculturation, where parents and children acculturate at different times.

Dissonant acculturation occurs because “children from immigrants acculturate easier and quicker than their parents who are more likely to cultivate values and traditions of their culture of origin” (Merz et al. 2009: 292). Thus “as the rates of adaptation following immigration may vary between parents and adolescents, intergenerational discrepancies in

cultural values may increase” (Phinney et al. 2009: 528). This is called the acculturation gap or ‘Intergenerational Cultural Dissonance’ (ICD), which is a clash between parents and children over cultural values (Choi et al. 2008) and can lead to conflict (Farver et al. 2002).

As parents retain their traditional culture and children acculturate to the host culture, this results in children having decreased ties to their traditional culture (Birman & Trickett, 2001, Tsai-Chae & Nagata, 2008). The children may oppose the traditional collectivist cultural beliefs such as involvement with the extended family and adherence to social and gender norms especially where acculturation involves ‘outside earning’ increasing their bargaining power and leading to them having a voice in the home. They may endorse dominant western values within the individualist culture where there are obligations to parents and families, but greater equality with parents and less emphasis on obedience (Ghuman, 2005, Phinney et al. 2009). This may also be related to a role reversal between genders or between children and their parents, due to dissonant acculturation affecting power structures in the household (Renzaho et al. 2011) including daughters empowering their mothers (Alam, 2014). This westernisation of second generation migrants and particularly women is important as it may be seen to affect the honour of the family and may lead to increased patriarchal control and enforcement of gender roles.

The importance of the individualist–collectivist concept and the increased patriarchal control for influencing communication between generations in this research may be understood via a study on Arabic migrants in Australia. The research found that second generation migrants (youths) were integrating into the host society. They were experiencing greater freedom within the individualist environment compared to their traditional collectivist culture (Renzaho et al. 2011). This resulted in them not obeying parental authority, wishes or commands. The acculturation gap subsequently led to conflict between generations, with first generation migrants (parents) adopting a system of close control over children, which effectively invaded their privacy and freedom. The children subsequently disengaged from family activities and parents felt that “they were not longer in control of young people’s life and the opportunity to transmit cultural values was lost” (Renzaho et al. 2011). In the context of this research, it is argued that the acculturation gap may lead to conflict between migrant generations and limit whether there is communication of flood experiences and transmission of risk perceptions. This has not been explored in existing research.

#### **2.6.6 ‘Old stories’**

Furthermore, even if there is communication of flood experiences, the acculturation gap may still play a role in how second generation migrants respond to flood narratives and indigenous knowledge and how their risk perceptions are affected.

This is based on existing research on the communication relationship between migrant generations. Nayar & Sandhu (2006) highlighted that communication patterns within a cultural group are fluid, not static. They explored intergenerational communication patterns amongst immigrant Punjabi families, looking at three generations of a family, grandparents, parents and children in Canada. The grandparents were considered to be the elders, and were all Indian born, spending their formative years in India. The second generation were parents, who may have been born in India but moved to Canada when they were younger, thus spending most of their adult life in Canada. The third generation were the children of immigrant parents who were born and raised in Canada.

It is highlighted that intergenerational communication patterns are reflective of an important aspect of the distinction between tradition and modernity. Orality, literacy and analytics are categories used to conceptualize the development of thought forms and patterns generated by modernity. Orality is the mode of thinking relating to society's oral culture, analytics is the critical enquiry mode of thinking that emerges from reading and writing and literacy is the transitional mode of thinking, influenced by the ability to read and write but within the context of oral culture (Nayar & Sandhu, 2006:142). These categories are on a continuum from oral tradition to modern society and generally the three generations correspond to the three categories. But an individual may vary in the extent that they reflect the characteristics of their categories based on factors such as education, length of stay in the host country and age upon arrival to the host country.

Nayar & Sandhu (2006) discussed how elders are for the most part illiterate and thus have an oral mode of communication. Their thoughts have a collective orientation with their communication style involving "telling stories, narrating traditions and their knowledge is based on personal life experiences" (Nayar & Sandhu, 2006:142). Immigrant parents and their children are able to read and write, so there is a shift from the collective. Knowledge is limited to personal life experiences and concrete facts. The children of immigrant parents have an analytic mode of communication where there is self orientation and critical enquiry.

Whilst asking the three generations questions, it was discussed that the grandmother was unable to answer conceptual questions, but answered the concrete questions with a concrete thought form based on her own life situation through storytelling. The grandmother voiced her opinion that her granddaughter should get married, and how easy she had it compared to life in India where there would be a need to look after in-laws, a husband and children without electricity. In doing so she communicated in an oral mode and relied on tradition and biographical storytelling to get her point across. However, there was conflict between the grandmother and granddaughter who argued: "My family is not being logical. That's the whole problem. First of all my grandmother is living in another era. Even in her village

things are changing, they have TV's, VCRs, and kids go to college and even party at clubs. All she talks about is the past. She doesn't know anything besides that so she thinks that's how I have to be too" (Nayar & Sandhu, 2006:146).

It is highlighted that this is a culture conflict where there is a clash between the individualist and collectivist views. In relation to the grandmother, "the present world is seen as a collective and her memories of concrete life events are viewed as authoritative, as a consequence her verbal interaction is based solely on her own life story, which seems to be outdated to a child reared in Western society" (Nayar & Sandhu, 2006:147). The results indicated that the granddaughter thought her grandmother's narratives did not apply. She thought her grandmother was living in the past and thus her advice was irrelevant and outdated in a modern, developed environment.

Yet this interaction between the two generations may be explored in a wider context. In discussing the norm in India of elders being looked after, and the easier life that she perceives her granddaughter to have in order to do this, the grandmother may actually be expressing her worry over her future and whether she will be looked after by her grandchildren in a society where children may not look after their elders anymore, possibly due to the acculturation gap. She may feel isolated and that she has a lack of power in the home as her granddaughter doesn't listen to her. In response, by stating that her grandmother is living in a different era and her views don't have any relevance, her granddaughter may actually be arguing that she does not want the responsibility of looking after her elders. In highlighting that things are changing in the villages in India, that there is now electricity and children have the option to lead a life outside of caring for the family, the granddaughter is drawing similarities with her own life in Canada to emphasise her individual identity. The granddaughter is arguing that if the rules in the traditional environment of India appear to be changing, then she should not have to follow the dated ideologies of her grandmother in a modern environment.

Thus the interaction between the grandmother and granddaughter may be around wider issues than the communication and denial of knowledge. It may relate to the acceptance of knowledge within the context of a deeper interaction around identity and power. The interaction between migrant generations in relation to the relevance of knowledge has not been related to the response of second generation migrants to flood narratives and indigenous knowledge from abroad.

### **2.6.7 The devaluation of knowledge**

Furthermore, research has also indicated that the acculturation gap may lead to the devaluation of indigenous knowledge from abroad. A recent study (McFadden et al. 2014) explored the impact of transnational migration on intergenerational transmission of knowledge and practice related to breastfeeding. The study explored how migration from Bangladesh to the UK influenced the transmission of knowledge and practice related to breast feeding from one generation to the next. The methodology involved focus group discussion with migrant grandmothers from Bangladesh and mothers of Bangladeshi origin.

The results indicated that grandmothers and mothers of Bangladeshi origin emphasised the importance of intergenerational transmission of knowledge and practice related to breastfeeding. Breastfeeding in Bangladesh was seen as a tradition passed from one generation to the next. It was important to communicate this knowledge. “However, migration disrupted this transmission through isolating women from their female kin, exposing them to a society where breastfeeding is mostly hidden and that privileges health professionals as an important source of knowledge about breast feeding” (McFadden et al. 2014:439). Hence migration from Bangladesh to the UK had a potentially negative impact on breastfeeding and this was commonly explained by acculturation.

Additionally as there was an absence of female relatives to advise them, mothers relied on health professionals for breast feeding advice and support. The attitude towards the role of grandmothers changed; “on migration to the UK, health professionals became an important and valued source of information regarding breast feeding. The grandmothers indicated their role in conveying knowledge related to breastfeeding was usurped by the modern, scientific knowledge of health professionals” (McFadden et al. 2014:444). Thus in this case, the grandmothers indigenous knowledge about breast feeding was not seen to apply, and was devalued in the UK.

Instead, participants spoke about how they valued information from health professionals and resisted breastfeeding advice from older female relatives. Mothers also talked about resisting advice from their mothers if it was ‘over the top’ in contrast to professional advice: “I think because she knows we’ve been brought up here, we’re not going to listen to all the advice they give us. Of course we’re going to see the pros and cons, we’ll weigh it up ourselves if it’s good enough or not” (McFadden et al. 2014:444). This study highlights how indigenous knowledge from abroad may not be valued in the UK but this has not been explored in relation to indigenous flood knowledge amongst migrant generations.

This research will use the acculturation theory to understand whether there may be limited communication between migrant generations that may influence whether there is communication of previous flood experiences and shared risk perceptions. This theory will



also be used to frame the research findings in terms of the response of second generation migrants to the flood experiences and knowledge that may be communicated.

The research argues that integration or assimilation into the wider community amongst second generation migrants may lead to decreased participation within their ethnic social network. This movement away from the ethnic community may be further facilitated by dissonant acculturation and the culture clash between migrant generations based on the enforcement of social and gender norms. The extent that each individual may participate in their ethnic social network may affect the risk communication process through the loss of social networks; the greater one's contacts and ties to the community, the more likely one is to receive information (Riad et al. 1999). If these individuals are not part of ethnic social networks, then intergenerational communication about previous flood experiences and transmission of risk perceptions may be limited. An acculturation gap may also affect how second generation migrants respond to flood narratives and indigenous flood knowledge.

## **2.7 Intersectionality**

It was discussed earlier in this chapter that intersectionality is an important concept in this research in terms of understanding risk. Intersectionality is the study of intersections between forms or systems of oppression, domination or discrimination. The intersectionality perspective argues that inequities are not the result of single factors, but the outcome of interactions of different social locations, power relations and experiences. The central concepts of intersectionality have historic roots with black activists, feminists as well as Latina and post colonial scholars (Hankivsky, 2014).

The term was coined by Kimberlé Crenshaw, an American legal race scholar in 1989. Crenshaw argued that race and gender should not be treated as exclusive parts of a human experience because in doing so, black women's experiences were ignored. She used the metaphor of traffic intersections to explain black female experiences: "Intersectionality is what occurs when a woman from a minority group tries to navigate the main crossing in the city. The main highway is 'racism road'. One cross street can be Colonialism, then Patriarchy Street... She has to deal not only with one form of oppression but with all forms, which link together to make a double, a triple, multiple, a many layered blanket of oppression" (Aydemir, 2012: 196). Crenshaw was arguing that black women experience discrimination in many ways, and this multiple discrimination combined racism and sexism. Thus the experience of being a black woman cannot be understood in terms of being black and of being a woman, considered independently, but must include the interactions which reinforce each other.

Therefore, the basis of intersectionality is that individuals are shaped by the multiple categories which they are perceived to belong to (Howard, 2015). These social categories include gender, ethnicity, class, ability, sexual orientation and gender performance, immigration status, and age (Knowler & Luo, 2014). As human lives are perceived to be multidimensional, they cannot be explained by taking into account any one of these single categories and exploring them through a single lens. Instead an intersectional lens is required where intersectionality promotes an understanding of human beings as shaped by the interaction of these different social locations, which may be seen as the many facets of people's identities (ethnicity, gender, age, class, migration status). These interactions occur within a context of structures of power (laws, policies, governments). Through these processes, interdependent forms of privilege and oppression which are shaped by patriarchy, homophobia, racism or imperialism are created (Hankivsky, 2014).

The growing popularity of intersectionality has led to it being interpreted and discussed in different ways, such as a theory, lens or framework. Intersectionality is important as it generates new and more complete information to better understand the root causes, origins and characteristics of social issues (Hankivsky, 2014). In the context of this research, there is a focus on perceptions of risk in the context of flooding. It will explore how the different aspects of an individuals' identity, such as being a migrant, being a first or second generation migrant and their gender influences their understanding of flood risk and knowledge in England and how they respond to it. Thus the research effectively explores how flood risk is understood, communicated and acted upon through an intersectional lens. This has not been explored in existing research.

## **2.8 Research focus**

It has been discussed that an individual's previous experience of flooding is likely to be a major factor in their perception of risk and consequently their response to flood risk. This previous experience may lead to a positive or negative response in relation to protective behaviour. A negative response has been observed amongst ethnic minority groups, with existing research indicating that previous flood experience abroad led to them having lower risk perceptions in the UK. They were not worried about flooding because the flood damage was perceived to be greater abroad and subsequently instead of experiencing fear, they felt safer due to living in a developed country. These feelings of comparative safety and lack of worry led to failure to engage ethnic communities in the risk communication processes.

These findings are important in the context of this research because there have been no studies on migrant ethnic minority groups in England and how their previous flood experience abroad may affect their flood risk perceptions, and specifically how this may

influence their response to flood risk. This research aims to fill this gap in the literature using the 'Affect' heuristic theory (Finucane et al. 2000a) to frame the analysis. In understanding how the mental representation of their previous experience may be tagged with an 'affect', this will provide an insight into the risk perception of the individual. Furthermore, the emotional aspects of risk perceptions are seen to drive behaviour, and in this context this emotion will be used to understand the individual's subsequent response to flood risk. The Protective Motivation Theory (Grothmann & Reusswig, 2006) will also be used to help understand the results of the research; how previous flood experience abroad may or may not lead to a protective response and how this may be related to the threat appraisal and coping appraisal.

The existing literature also indicated there is a weak intergenerational transmission of risk attitudes between migrant generations (Bonin et al. 2010). This has not been explored in relation to migrant groups and the intergenerational communication of flood risk perceptions or whether there are gender differences in communication. This is important when it is considered that existing studies in the developing world context suggest that the impact of 'natural' disasters such as flooding may be gendered due to the strict enforcement of social and gender norms in many South Asian countries that mean women are less able to respond to flood risk. However, this has not been discussed in relation to South Asian families living in England and if, and how, gendered cultural norms may continue to influence the practical response to flooding. There is also a lack of research on whether there is communication of indigenous flood knowledge from abroad, and how this informs response to flood risk in England. This research aims to fill these gaps in the literature through exploring if lower flood risk perceptions amongst first generation migrants negatively affect their response to flood risk, and if communication of these perceptions and indigenous flood knowledge influence the response to flood risk amongst second generation migrants in England.

It is recognised that a cognitive heuristics approach would be useful to understand the flood risk perceptions of first generation migrants. As such, a social communication approach will be taken to understanding how their flood knowledge, experience and notions of risk may be communicated to second generation migrants. This process may involve the communication of knowledge and risk and the concept of risk as a cognitive mental approach being learnt across a social generational relationship. The communication of risk will thus be explored through a social and a cognitive aspect.

In this context, the social network contagion theory (Scherer & Cho, 2003) is considered most appropriate for understanding how previous flood experiences may be shared intergenerationally via narratives and how this may lead to the transfer of risk perceptions from first to second generation migrants; the greater the involvement in the ethnic

community, the more likely the transfer of risk perceptions (Scherer & Cho, 2003). This theory is used to frame the thesis and understand the results in terms of the intergenerational communication of flood experiences and the transmission of flood risk perceptions.

Additionally, bargaining theory and specifically bargaining power (Agarwal, 1997) is used in this research to help understand how traditional social and gender norms as part of patriarchal control may affect the extent to which women have a voice in the home to make decisions and how this may change across migrant generations as a consequence of acculturation and 'outside earning' (Sen, 1985). This will also be related to how this may influence women's practical response to flooding.

An acculturation gap may lead to distance between generations, especially if there is enforcement of traditional gender and social norms. To date, this has not been explored in relation to limiting the communication of flood experiences and transfer of risk perceptions and this research aims to address this gap in the literature. This research will use the acculturation theory (Berry, 1997) to understand whether there may be limited communication between migrant generations that may influence whether there is communication of previous flood experiences and shared risk perceptions. This concept of the acculturation 'gap' (Farver et al. 2002, Choi et al. 2008) will also be used to frame the research findings in terms of understanding how second generation migrants may respond to the flood narratives and knowledge that may be communicated and whether they act upon this knowledge.

This literature review has discussed the different theories that may be relevant in understanding the various aspects of this research. The most appropriate theories have been highlighted as being relevant to be taken forward in the research as a framework and will be used to help understand and frame the research findings and discussion.

As flood risk and migrant numbers continue to grow it becomes important to gain a greater understanding of how flood risk is understood through an intersectional lens focusing on migrants, migrant generations and gender. These three aspects are under researched in terms of how they intersect in the flood risk context and thus this research will contribute to knowledge on flood risk and risk perception across these three areas. The research aim and objectives are reiterated in Section 2.8.1 and the research methodology is discussed in Chapters 3 and 4.

### **2.8.1 Aim and objectives**

#### **Aim**

To explore whether there is intergenerational and gendered transmission of flood risk perceptions and knowledge based on communication of previous flood experiences abroad amongst migrants to England.

#### **Objectives**

1. To better understand how previous flood experiences in England and abroad affect perceptions of flood risk amongst migrants in England.
2. To explore the gendered and intergenerational communication of previous flood experiences amongst South Asian migrants in England and whether this affects the risk perceptions and response to flood risk of second generation migrants.
3. To determine whether communication of previous flood experience involves an intergenerational transfer of indigenous flood knowledge and how this may affect response to flood risk.
4. To identify whether an acculturation gap affects intergenerational communication and how second generation migrants may respond to and act upon the knowledge they receive.

# Chapter 3: Locating migrant communities

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## 3.1 Introduction

In order to achieve the research aim and objectives, there was a need to research amongst a particular sample, namely migrant generations in flood prone communities, who had previous flood experience in England or abroad. However, there is no one existing database that combined these aspects in order to allow migrant groups to be located in England. In order to research amongst migrant communities, there was a need to locate them. It has been discussed that although the focus of this thesis is on South Asian and particularly Pakistani migrants, the original research and methodology focused on diverse migrant ethnic minority groups. Thus the methodology applied to locate them is important to understand because it was through this process that South Asian migrants became the focus of the research.

This chapter discusses how flood prone areas with migrant communities were successfully located through the use of a community study. This involved the combination of census data relating to country of birth statistics with knowledge of flood prone areas. Local knowledge combined with ward level ethnicity data led to greater confidence that the locations had migrant ethnic minority communities. This led to the selection of two flood prone study locations that potentially had migrant group diversity: Perry Barr in Birmingham and Ravensthorpe in Dewsbury. Community study research in the flood prone areas within these two locations would allow an in-depth focus on the research questions amongst the particular sample required. The research data from the two locations would be combined to allow a large enough dataset for analysis.

There were limitations to this methodology which are discussed throughout this chapter, yet the approach used was successful in locating migrant groups in flood prone areas and has the potential to be developed further.

## 3.2 Locating migrant communities

The first stage of identifying migrant generations for this research was to locate flood prone areas with established migrant communities as opposed to newer communities with only 'first' generation migrants. As there is no one database on the location of migrants in the UK, research was conducted to identify the existing sources of migrant data in the UK. This section discusses the sources of international migrant data that were identified, including census data relating to 'Country of Birth' statistics. The limitations of mapping this data are

highlighted and related to the need for a community study involving knowledge of flood prone areas and information from key stakeholders.

### 3.2.1 Sources of international migrant data

Literature research identified sources of statistical information on migrant activity in the UK (Table 3.0). These existing sources of international migrant data could not be used to locate migrant groups as there was no integrated framework through which datasets were available. The data sources also had strengths and weaknesses: Either they did not identify the location of migrants, focused on changing compositions of local areas based only on recent data, had a small sample size or captured only new migrant flow data, and thus did not indicate established migrant communities.

Sources of international migrant data	Limitations of use
<b>International Passenger Survey (IPS)</b>	The IPS involves a sample of passengers being surveyed in a multi-dimensional survey. The migrant capture information includes ‘intended length of stay’, ‘main reason for visit’, ‘final destination in the UK’ and their country of birth and nationality. The IPS does not record where migrants move from their intended destination in the UK and estimations are produced based on ‘intentions’ of migrants.
<b>The National Pupil Dataset (NPD)</b>	The NPD contains records for children in UK grant maintained schools. It has the potential to provide an indication of the changing composition of local areas based on age, gender, language and ethnicity using ‘entry to the education system’ as a proxy for new migrant activity. The NPD does not record where a pupil has come from or when they leave the system. The NPD has only been available since 2002 and would provide an indicator of newer migrant flows.
<b>Labour Force Survey (LFS)</b>	The LFS is a quarterly sample of households living at private addresses in the UK which provides statistics on the UK labour market. There are questions on household, family structure, housing, and demographic details of family members as well as economic activity, education and health related questions. The survey includes the question ‘where were you living one year ago?’ and thus the migrant flow data is a record of transitions over each time period. It also records the year of entry to the UK which would indicate how long a migrant has been resident in the UK. The drawback to the LFS is the small sample size of 12,000 people and small sample of migrant numbers.
<b>National Insurance Numbers (NINo)</b>	NINos are allocated to new migrants through the Department of Work and Pensions. Through their registration process they collect data on age, gender, ‘country of origin’ and ‘date of arrival’. This approach only captures new migrant flow data and would not be an indicator of established migrant communities.

Table 3.0 Statistical sources of new migrant activity (Rees & Boden, 2006)

### 3.2.2 Census data: ‘Country of Birth’

Research indicated that the UK census was the most suitable data source. The census is conducted every 10 years by the Office of National Statistics (ONS). The statutory authority for taking a census in Great Britain is the Census Act of 1920 as amended by the Census (Confidentiality) Act 1991. This makes provision for the taking of a census from time to time (but no more frequently than every five years) and for obtaining statistical information with respect to the population of Great Britain (ONS, n.da). The census aims to collect a

comprehensive statistical snapshot of individuals and households through self - enumeration. Details are recorded on residence, age, sex, occupation, ethnic group and marital status.

As part of the Census Act, if householders wilfully refuse to complete a census form then they may be prosecuted. Furthermore it is also recognised that “as with any census there will always be a small percentage of people who will have been missed” (ONS, 2012:3). Therefore, where people may have been missed, the ONS uses statistical procedures such as information from the Census coverage survey and other quality assurance measures to estimate the number of people missed and their characteristics in order to produce estimates of the whole population (ONS, 2012). In relation to illegal immigrants, those individuals who do not have valid leave to remain in the UK, including illegal entrants, overstayers and failed asylum seekers (Woodbridge, 2005), the ONS states that “by its very nature it is impossible to quantify accurately the number of people who are in the country illegally. For this reason ONS does not produce estimates on the size of the illegal migrant population” (ONS, n.db), although the Home Office estimated that the total unauthorised migrant population living in the UK in 2001 was 430,000 (Woodbridge, 2005:1). In this research there was no conscious attempt to locate, identify or research amongst illegal immigrants.

Despite the issues relating to low response rates and individuals being ‘missed’ in the census, the census is still seen to provide the most reliable geographical and socio economic data available. Census questions were explored to determine the feasibility of using the corresponding data to locate migrant groups. Ethnicity data was unsuitable as many minority group populations are British Citizens, born in the UK (Rees & Boden, 2006:51). The census does ask ‘Where were you living twelve months ago?’ This is a transition statistic, recording transition from one year prior to the enumeration date, allowing a count of international migration flows for the year, but not information on established migrant communities.

The census does provide a measurement of migrant stocks in the resident population. This is via the question ‘Country of Birth’, which would allow identification of locations in England with the highest number of migrants from a particular country. The data related to this question was the most suitable for locating migrants in this research.

The most recent census was conducted in 2011, with the data being available from 2013. However, at the time of data collection for this research (2011), the most recent census data available was from the 2001 census and was therefore used to locate the research sample. The 2001 ‘County of birth’ statistics were used to locate flood prone areas with migrant communities and the 2001 ‘Ethnicity’ data was used to provide an indication of the ethnic diversity within the flood prone areas to determine the suitability of researching in the identified locations (Sections 3.3 and 3.4).



In order to locate flood prone areas that had diverse migrant communities, the 2001 'Country of birth' data was accessed. This data was mapped in a geographic information system (ARC GIS) along with geographic ward output area codes of England. These are the smallest output areas possible, built from postcode blocks. This would map the data from each 'Country of birth' category by location. Environment Agency data on areas in England which receive flood warnings was also mapped. This was important as flood warning areas would include both flood prone and flood risk locations, allowing research to be conducted on how migrant groups responded to flood risk in these areas.

This map was expected to indicate which flood prone areas had high numbers of individuals who were not born in the UK based on all the data from the 'Country of birth' statistics. However, because the 'Country of birth' data was mapped together, the data for each country was simply overlaid and resulted in a map that was covered in black dots and thus indecipherable because there was too much data being combined.

As more than one migrant group could not be mapped at a time, it was decided that the data for each 'Country of birth' should be mapped separately and the different maps that were produced could be compared to identify which locations had a high diversity of migrant ethnic minority groups. As a starting point data on Indian migrants was accessed, because the researcher is of Indian origin, and being aware of where Indian migrants may have been located in the country, she wanted to observe whether the map confirmed this. Thus flood warning locations with the highest percentage of Indian migrants in England were mapped. The map produced showed the number of Indian migrants per ward (Figure 3.0).

The map was inconclusive because rather than clearly indicating where there may be more Indian migrants in flood prone areas, it showed a wide distribution of output areas with Indian migrants, and it was difficult to select any one suitable study location. Furthermore, on the basis of the Indian migrants map, producing any more individual maps based on each 'Country of birth' was seen to be a time consuming and ultimately futile process as it was not expected that they would be any better in terms of clarity. Thus no further maps were produced and this approach was deemed unsuccessful.

In order to overcome these limitations and locate diverse migrant communities at the ground level, it was decided there was a need to go to the most-promising areas suggested by the mapping exercise and explore further which groups lived there.

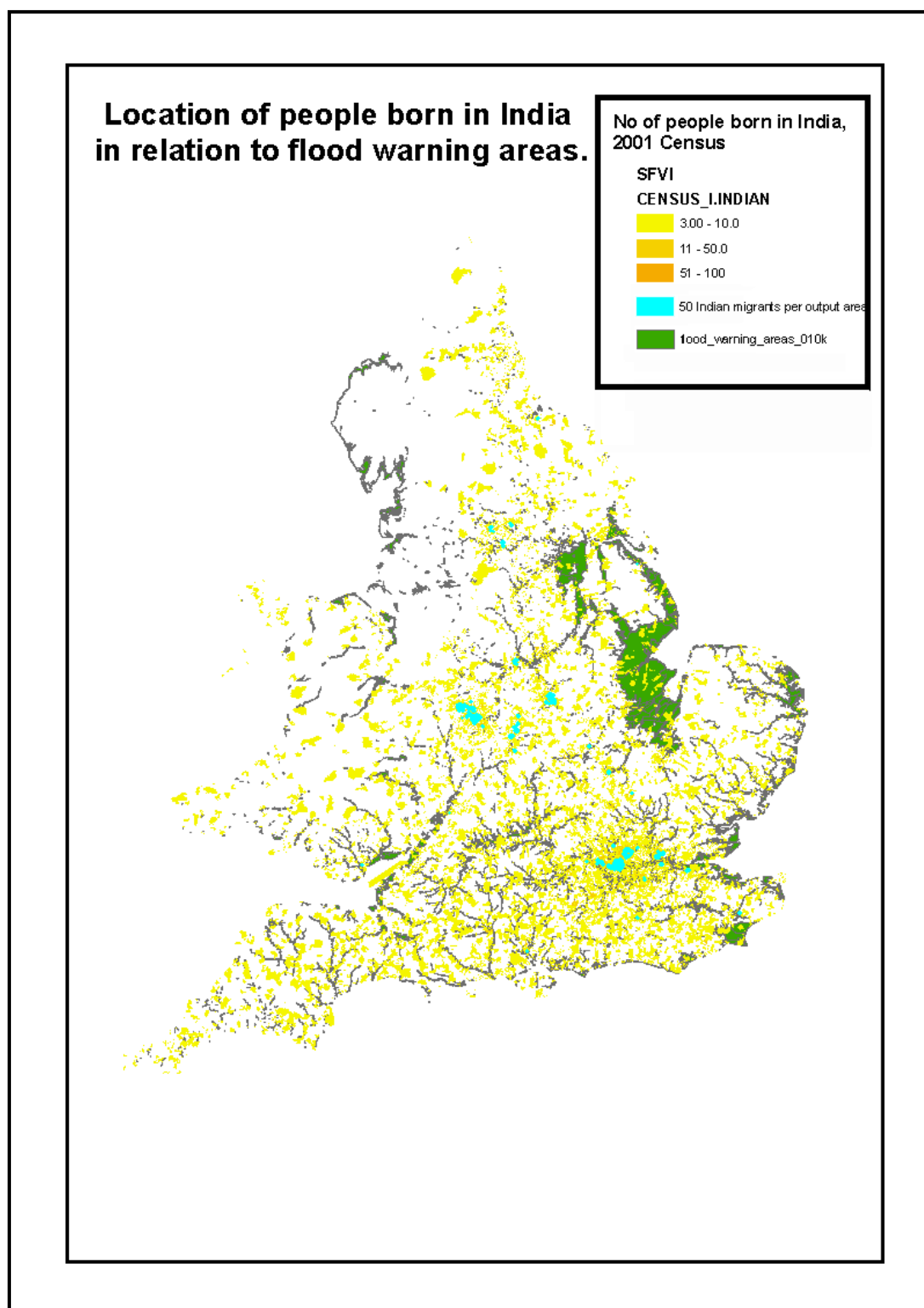


Figure 3.0 Location of Indian migrants in England and Wales in relation to flood warning areas based on 2001 UK Census (Individuals per ward) (Riyait, 2011)

### 3.2.3 A community study approach

A community study is a research method which involves not the study of a community, but “the empirical study of social relations within a clearly defined locality” (Crow, 2008:136). “Community has ceased to be the object of study and the approach is a method of study by which sociological issues can be explored within a local setting” (Crow, 2008:133). The community study involves a focus on the whole community, and an in-depth look at the relationships between all the people in that community or their response to a specific issue. Thus a community study approach would allow the research questions to be explored in depth, including a compare and contrast between the particular sample required consisting of different generations of diverse migrant ethnic minority groups in flood prone areas.

The community study method has its roots in social anthropology and the Chicago School of Sociology where social issues in the 1920/30s were studied in the context of the community. Research involved using statistics to map social conditions in Chicago, but this was complemented by qualitative methods. This included participant observations and interviews to “capture the subjective experiences of life in Chicagoan communities” (Jupp, 2006:32).

A similar approach was taken in this research to locate migrant groups in flood prone areas and then research amongst them. Migrant communities were located through census statistics and local knowledge as discussed from Section 3.2.5 onwards. This led to the study locations of Perry Barr and Ravensthorpe. The ‘community’ in these two locations was defined as the set of streets that were within the extent of the flood zones (Section 4.3.1).

The literature suggests that “a social scientist using the community-study method must find a community in which he can at least hope to take a “cross-section” or a “sample” of the society and the culture of the persons he is interested in” (Arensberg, 1954:111). Therefore in order to take a sample of the ‘community’ in each study location, door to door questionnaire surveys were conducted to identify migrant ethnic minority group generations and recruit them for the qualitative interview research; the recruited diverse migrant ethnic minority generations in the community effectively composed the sample amongst which the research was conducted. The communities within the two study locations were used as a “setting for exploration, discovery, or verification’ of the research objectives” (Arensberg, 1954:110). This stage of the community research is discussed in detail in Chapter 4.

There is a lack of research on community studies amongst migrants in relation to intergenerational communication of flood risk perceptions, but studies have been conducted on flooding and health implications (Tapsell & Tunstall, 2008), transnational communities in Britain, (Bauer & Thompson, 2006), and insecurities about ‘best places’ to live (Gardner, 2002). Therefore a community study amongst migrant groups in relation to previous experience and flood risk perceptions, involving quantitative and qualitative research aspects

was a new but appropriate approach to researching migrant groups; the “multiplicity of ethnic groups, and their shifting cultural, social and geographical attachments are best understood through interviewing exemplified in community studies” (Phillipson & Thompson, 2008: 90).

However, it has been discussed that the research sample was different than expected, and therefore there is a need to re-examine the concept of a ‘community study’ within this research. Initially it was understood that Perry Barr and Ravensthorpe were the study locations. The ‘community’ was the streets in these two locations that were flood prone or at flood risk. The research sample aimed to include a cross section of this community including diverse migrant ethnic minority groups. Despite efforts to locate, recruit and research amongst diverse migrant ethnic minority groups, the majority of participants in both the quantitative and qualitative research were of Pakistani origin, and there were also Indian, Kashmiri and Bangladeshi migrants, thus the research was conducted amongst South Asian migrants. Therefore in reality, the research was actually conducted amongst a cross-section of the South Asian community within the flood prone community in each of the study locations of Perry Barr and Ravensthorpe; it became a study of a community within the flood prone community.

It is recognised that this may not be seen as a traditional community study; it was not a full locational community study in the flood prone communities, and neither was it a compare and contrast between diverse ethnic minority groups within each flood prone community or between the flood prone communities in the two study locations of Perry Barr and Ravensthorpe. In this research, ‘community study’ refers to the entire process of locating and researching amongst the South Asian community. This includes the use of quantitative data and key stakeholder knowledge to identify the study locations of Perry Barr and Ravensthorpe. It also includes the process of conducting questionnaire surveys followed by one to one interviews amongst the research sample (Jupp, 2006). Most importantly, the ‘community’ is the South Asian community, particularly Pakistani migrants within the flood prone community in the study locations of Perry Barr and Ravensthorpe. There is not a compare and contrast between the Pakistani, Indian, Kashmiri and Bangladeshi migrants due to the majority of participants being Pakistani.

Furthermore, it is recognised that ‘community’ is a contested concept, which has a long history of being defined, researched, and theorised in diverse and contradictory ways within the social sciences (Coates, 2010). In terms of flood risk management in England and Wales, “communities are viewed in spatial terms: groups of people living in the same area or close to the same risks” (Twigg, 2007:6). However it is acknowledged that this concept of community is being used “in a sweeping fashion without the recognition that all the people

in the community may have in common is that they live or work in the vicinity of the risk: here community is defined implicitly by proximity” (Marsh & Buckle, 2001:5).

The more recent literature attempted to find solutions to the theoretical difficulties relating to the concept of community. This has been done through understanding community not as a physical or social entity but as a mental construct. Cohen (1985) stated that “community exists in the mind of its members ...the distinctiveness of communities and, thus, the reality of their boundaries, similarly lies in the mind, in the meanings which people attach to them, not in their structural forms” (Cohen, 1985:98). Coates (2010) found that the creation of a local community did not arise naturally from living in the same location, but required reflexivity and effort by residents. Coates (2010) suggested that the local community may be understood as a ‘conscious community’ formed around an attachment to the locality, a shared local identity and the presence of dense, localised networks (Coates, 2010:189).

In the context of this research, the initial approach to the community study did view the flood prone areas in the study locations as the ‘community’ because of the proximity to the flood hazard, and the relationship or lack of relationship between all the people in the community was not considered. However as the definition of ‘community’ changed to focus on the South Asian community, it has to be explained that this was not because the researcher imposed her views and defined the South Asian migrants as a community in the proximity of a flood prone area, but rather it was because they defined themselves as a community.

In this research there is a focus on a community study of South Asian and particularly Pakistani migrants in the flood prone areas of each location, because the research findings highlight that for this group, they see their community to be within their own ethnic group. Participants were asked how they would describe their community, whether they felt part of their ethnic community or their neighbourhood community and if, how and why they were integrated amongst any particular group. The research suggested that South Asian migrants perceived their community to include members of their household and individuals from their ethnic grouping in terms of friends and extended family living in the local area, who they interacted with through social and religious networks and had a shared identity.

This was particularly the case in Ravensthorpe, where there was less ethnic diversity in the sample and family members lived in close proximity to one another. Thus amongst South Asian migrants, their definition of ‘community’ included friends and family members from within their ethnic group but also other South Asian migrants in the neighbourhood and surrounding area.

In Perry Barr there was more ethnic diversity including White British participants. Thus it emerged that the notion of community amongst the South Asian migrants in the area was still primarily within their own ethnic group, including other South Asian migrants, but because there was diversity in the area, there was also interaction with the wider community outside of their ethnic group including White British neighbours and friends who lived in the area and were involved in social networks. South Asian migrants subsequently discussed their communication relationships with individuals in the context of them being from within and outside of their 'South Asian community' but also discussed the extent to which they felt they belonged to their 'South Asian' and the wider community in relation to being a first or second generation migrant.

This may be related to the concept of lived and 'state' defined ethnicity. The state imposes categories of ethnicity, such as those seen in the census, but in reality people may not live according to these categories, differentiating between being Indian, Pakistani or Bangladeshi. As was seen in this research, in reality there may be more cohesiveness between these individuals because they see themselves as coming from the same part of the world, therefore they define themselves as a community. Thus the definition of community in this study is the South Asian community, because that is their definition of community.

The processes involved in the community study approach to identify the study locations of Perry Barr and Ravensthorpe for this research are discussed in the remainder of this chapter.

### **3.2.4 'Country of birth' data and flood prone locations**

The community study approach would effectively identify potential study locations for this research. The census data relating to 'Country of birth' statistics was still the most appropriate data source to locate the migrant communities. Due to the earlier inconclusive data on Indian migrants at the ward level, it was decided that a broader approach should be used, where migrants in general would be located at the regional level and then locations would be narrowed down to locate them at the local ward level through further research.

Research was conducted to identify locations that had been flooded in England and Wales since 1998. It was decided that these locations would be most suitable as participants would have better recollection of their previous flood experience and actions taken. In particular, there was a focus on locations that had flooded in the most recent flood event at the time, the 2007 floods. There had been no recent significant coastal floods at the time of the research, thus locations were limited to areas prone to fluvial flooding. A table was created of flood prone locations with details of past flood events.

In order to identify which of the flood prone locations had high migrant numbers, the 2001 'Country of birth' data was accessed. Instead of focusing on a particular migrant group or

attempting to identify all the migrant groups in an area, general data was accessed. This data highlighted areas where there were high migrant numbers based on individuals ‘not born in the UK’. In many cases, migrant data for specific flood prone areas was not available and thus data from the next largest output area was used.

This led to a selection of approximately 60 locations which had experienced flooding since 1998 along with the number of migrants in each area. The list of locations was ranked according to the percentage of residents ‘not born in the UK’. The figures indicated that the percentage of migrants in the flood prone locations ranged from 3.5% (161,033 residents in Aston, Birmingham) to 0.02% (994 residents in Eden, Cumbria) (Appendix A).

Thus through the use of the census data, flood prone locations with a potentially high percentage of migrants were identified. The study sites for this research would be selected from the locations identified. However, the census data was out of date, and thus did not account for changing community composition since data collection to when census results were published. Furthermore, it was also recognised that the 2001 census was estimated to have a response rate of 94% but the response rate in inner London was found to be below 80% (Camilo, 2011). The non response rates were highest amongst vulnerable groups such as black and minority ethnic groups, and one of the explanations for the low return rates in London was the high number of migrants living in the capital; “it is assumed that migrants are more likely to be unfamiliar with the census, suspicious and mistrustful of authorities, face language barriers, and live in complicated household arrangements such as houses in multiple occupation and split properties” (Camilo, 2011). The census data may be adjusted to account for the missing responses, but it still indicates a degree of inaccuracy in estimating the number and ethnic diversity of migrant groups at the local level. Additionally, in many cases ‘Country of birth’ data had to be used for a larger location than the area that flooded. This meant that although migrant numbers may have been high, migrant communities may not actually have been located in the flood prone areas. Therefore, further verification was required at the local level to establish whether the flood prone locations actually had migrant communities or whether they were distributed in the wider area.

### **3.2.5 Exclusion of locations**

The first stage was to exclude locations on the list that were not feasible for the research. There were several locations identified that regularly flooded and had adequate migrant numbers to justify a community study. Due to the severity and number of floods in these areas, several research projects had already been, or were in the process of being conducted there. In order to avoid over- researching, these locations were excluded.

Locations lower on the ranked list were also excluded as the focus of the research was on migrant groups and it would not be practical to select locations where migrant numbers were already lower than other locations identified. This would reduce the potential sample of both migrant groups and generations prior to beginning the research.

Additionally, research was conducted on every location on the list to identify the type and number of events in recent years. The locations that had only flooded once and less severely than other locations, such as flooding of roads with minimal impact on communities were also excluded. This was because the research aimed to explore flood experiences and actions taken, and if there was no impact on the community, it was felt that the aims and objectives could not be fully explored.

This process identified nine potential locations where the research could be conducted: (1) Birmingham, (2) Leeds, (3) Sheffield, (4) Bedford, (5) York, (6) Doncaster, (7) Wakefield, (8) Stratford on Avon and (9) Barnsley.

### **3.2.6 Key stakeholders**

As part of the community study approach, contact was made with key stakeholders at the local level, beginning with Environment Agency and local council contacts. A snowballing approach (Arber, 1993) was used to access various stakeholders who could provide information on the potential research areas (Table 3.01). The individuals who were interviewed were asked if they could identify further members within their network who could provide information. This continued until no further individuals could be identified.

It is recognised that there are biases relating to snowball sampling. Although it is advantageous as it reveals a network of contacts that can provide information, this may also be seen as a negative as it may only reveal those individuals who are connected to that network (Sturgis, 2008). This may result in biased data as individuals outside the network are not interviewed. Furthermore, through asking interviewees to identify other individuals who may be spoken to, it is acknowledged that they are in control in terms of who they recommend and this may reflect their personal views. This may result in a biased sample consisting of a certain group of people who hold similar views (Sturgis, 2008).

In this research, the stakeholders were able to provide invaluable information on the feasibility of conducting the research in the area. Contacts were asked about the specific areas that flooded, the location and diversity of migrant groups in the flood risk area, whether there were newly arrived or established communities, as well as details of the recent flood history of the area and management approaches.

The key stakeholders included individuals within the same network; those involved at the Environment Agency and local council, but these individuals varied in their disciplines and



involvement within the local community. This was beneficial as it allowed different individuals to be spoken to who could each provide information about the study locations within the context of their department. This reduced the bias in the sampling as individuals were not recommended for interviewing on the basis of similar viewpoints but in their capability to provide relevant information on the study location which the original stakeholder may not have had access to. The snowballing approach may not have been a representative sample of all stakeholders who could provide information on the study locations, but the different stakeholders provided a multifaceted, wide ranging overview of the study locations, allowing information from each to be compared and contrasted. The researcher was subsequently able to make an informed decision on the feasibility of conducting the research in the study locations on the basis of the information from key stakeholders.

<b>Key stakeholders</b>	<b>Information provided</b>
<b>Ward councillors/Ward support officers</b>	The councillors for each flood risk area were identified through the council website, allowing telephone and email contact to be made with them. They were able to provide information on the feasibility of conducting the research in the area, the ethnic diversity of the flood risk area, spoken languages and access points into the community.
<b>‘Community Faiths Co-ordinator’/ gatekeepers</b>	‘Community faiths co-coordinators’ were also employed by the local council and were contacted through the ward councillors. They provided contact details for community gatekeepers such as leaders of the local Mosques and Community centres. The gatekeepers were contacted whilst researching in the areas.
<b>The Planning Department (local council)</b>	The ‘Planning Department’ and specifically the ‘Emergency Planning Officers’ at the local councils provided information on local flood resilience strategies in each flood risk area and contact details of Flood Action Groups and local constituency contacts. The ‘Principal Demographer’ also provided specific ward maps and ethnicity data.
<b>Flood Incident Management Team Leaders/ Local EA contacts</b>	Contact was also made with Flood Incident Management Team Leaders in each study area for details of local EA contacts. These contacts included ‘Engagement officers’ who were subsequently able to provide details about the flood history of the area, previous EA access into the community as well as flood maps and historical flood outlines for the study areas. This facilitated in identifying the specific streets that were at flood risk in each study area.
<b>Flood wardens/ Flood Action Groups</b>	Flood wardens were contacted by telephone to enquire about their activities in the area, accessing different migrant groups in the community, most suitable times to conduct the research and general background information about the area. It must be noted that flood wardens do not exist in every flood risk area. They are only present in certain areas where the community is more engaged about flooding.

Table 3.01 Key stakeholders used to gain information about potential research areas.

It was important that there were diverse migrant groups in the study locations as the research was focused on general migrants, not a specific group. The key stakeholders provided information on the diversity of ethnic groups in the areas. Through their local knowledge, unsuitable locations that had low ethnic diversity were excluded: Leeds, Bedford, Barnsley, Doncaster, Stratford on Avon, Sheffield. York was highlighted as being over researched, and was excluded to avoid research fatigue amongst residents.

Furthermore, whilst key stakeholders advised against researching in certain locations, their local knowledge allowed them to suggest other flood prone locations in the local area that did have ethnic diversity and established communities.

In Birmingham, the Perry Barr area was suggested instead of Aston as the area had greater ethnic diversity, established communities and a history of flooding. Leeds was excluded, but local Environment Agency contacts suggested nearby Ravensthorpe in Dewsbury as a potential location as it has established minority ethnic group communities and had recently flooded. The flood history of the Perry Barr and Ravensthorpe areas was researched further (Sections 3.3, 3.4).

### **3.2.7 Ethnicity data**

In order to verify the ethnicity information on Perry Barr and Ravensthorpe received from contacts, the 2001 output area census ethnicity data was cross referenced against the flood prone areas.

This data was more specific than the initial ‘country of birth’ data used for the wider locality as contact with key stakeholders had identified the specific streets that flooded. This meant that the ethnicity data could be accessed for those specific postcode areas. It was decided that ethnicity data would be most suitable at this local level because it would provide an indication of the percentage of individuals from each ethnic minority migrant group, including British nationals who were second or third generation migrants. Alternatively, if country of birth data was accessed for these areas, only first generation migrants would have been identified, as subsequent migrant generations would be born in England. This would have excluded second generation migrants from the data and provided a limited overview of the potential population of migrant generations in the study locations.

The data indicated that the locations had ethnic group diversity, from which migrant generations could be identified through further research at the community level. Thus on the basis of the community study approach, using country of birth data, key stakeholder knowledge and ethnic minority data, the locations chosen for this research were the Perry Barr ward in Birmingham and Ravensthorpe in Dewsbury. These two locations were flood prone, and had potential migrant group diversity as well as migrant generations as required for the research. The locations are discussed in detail in Sections 3.3 and 3.4

### 3.3 Perry Barr ward, Birmingham

Key stakeholders recommended Perry Barr in Birmingham as a suitable area for the research. The research conducted to confirm the key stakeholder information and justify Perry Barr as a study site compared to other areas in Birmingham is discussed in this section.

Birmingham city is located in the west midlands of England (Figure 3.01). It is one of seven metropolitan boroughs which make up the West Midlands metropolitan county. There are ten district committees in Birmingham, each composed of four wards (Figure 3.02).



Figure 3.01 Birmingham, west midlands of England (Google maps, 2014)

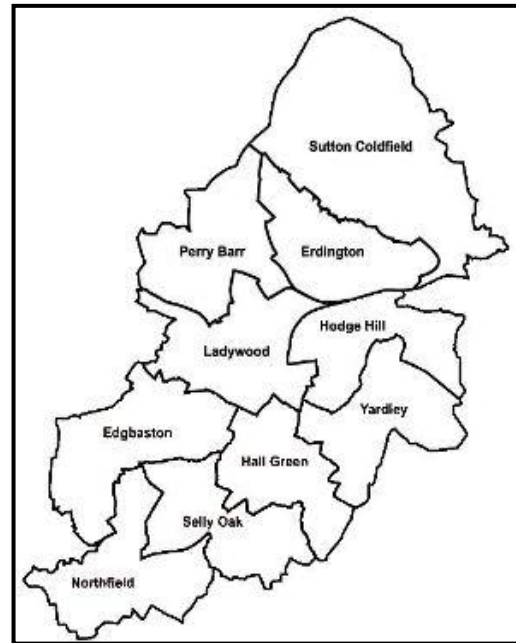


Figure 3.02 The 10 district committees of Birmingham (BCC, n.d).

#### 3.3.1 Flooding in Birmingham

There has been large scale flooding in Birmingham over the last 12 years, with severe flooding in 2005, 2007 and 2008 (BCC, 2010:15). Birmingham is mainly at risk of fluvial and surface water flooding, with potential for sewer and groundwater flooding (BCC, 2010:16). The type and number of flood events experienced in each district of Birmingham were identified to determine potential study locations (Table 3.02). The six districts with the highest number of flood events since 1998 were selected. The remaining four locations were excluded as they had fewer flood events which had been less impactful on the community.

On the basis of the ethnicity data for each ward and contact with stakeholders, the Northfield, Selly Oak, Edgbaston and Sutton Coldfield districts were excluded based on low ethnic minority group diversity within the flood prone areas. Hall Green experienced flooding in 2007 when the River Cole flooded, leading to the evacuation of 60 residents.

Contacts advised that the area had South Asian migrants, but otherwise ethnic group diversity was low. This left the Perry Barr district as a potential location.

District	Fluvial	Surface water	Ground water	Sewer	Canal breach	Unknown	Total
1. Northfield	61	40	2	13	0	6	122
2. Selly Oak	35	5	2	22	2	4	70
3. Edgbaston	13	15	2	17	1	3	51
4. Hall Green	24	0	5	18	0	0	47
5. Sutton Coldfield	19	0	4	21	0	1	45
6. Perry Barr	16	0	4	12	0	0	32
7. Yardley	2	2	1	8	2	0	15
8. Hodge Hill	2	1	1	5	2	1	12
9. Ladywood	0	1	1	7	2	1	12
10. Erdington	2	0	4	3	0	0	9
<b>Total</b>	<b>174</b>	<b>64</b>	<b>26</b>	<b>126</b>	<b>9</b>	<b>16</b>	<b>415</b>

Table 3.02 Birmingham by district. Fluvial and surface water incidents 1998- 2010, sewer and groundwater 1993-2010, canal breaches 1872-2010 (BCC, 2010)

### 3.3.2 Perry Barr ward: 2007 floods

Perry Barr is one of the inner city districts in north Birmingham. It is composed of four wards: Perry Barr, Handsworth Wood, Lozells and East Handsworth and Oscott. The Perry Barr ward experienced fluvial flooding from the River Tame in 2007.

The River Tame is the main river in the west midlands and is the largest tributary of the River Trent. It is formed from two watercourses to the west of Birmingham: the Oldbury Arm and the Willenhall Arm. The river flows in an easterly direction through Birmingham, then flows in a northerly direction to its confluence with the River Trent (EA, 2011b). In its path across Birmingham, the River Trent flows around the Witton area of Perry Barr before flowing under the Spaghetti Junction road network.

The River Tame has a flashy response to storm events. This is due to urbanisation and building on the floodplain in the upper catchment. The hard surfaces have led to faster runoff rates during heavy or prolonged rainfall, resulting in an increase in flow in the river downstream. The river therefore rises quickly with little warning time, resulting in significant localised fluvial flooding at several locations throughout the city (EA, 2011c).

This was seen in the summer of 2007 when prolonged rainfall led to flooding in the Witton area of Perry Barr. Heavy localised rainfall involving approximately 3 inches of rain falling in 6 hours increased runoff to the River Tame (BCC, 2010:16). This resulted in the flood defences, consisting of channels and high walls, being exceeded at Brookvale Road in Witton, flooding the residential and industrial area adjacent to the river, with approximately 400 properties affected (EA, 2011c).



The flooded streets included (1) Brookvale Road, (2) Tame Road, (3) Deykin Avenue, (4) Brantley Road, (5) Westwood Road and (6) Electric Avenue (Figure 3.03). This was estimated as being an event with a one in seventy five chance of occurring in each year. Figure 3.04 shows the extent of the floodwaters in Brantley Road.

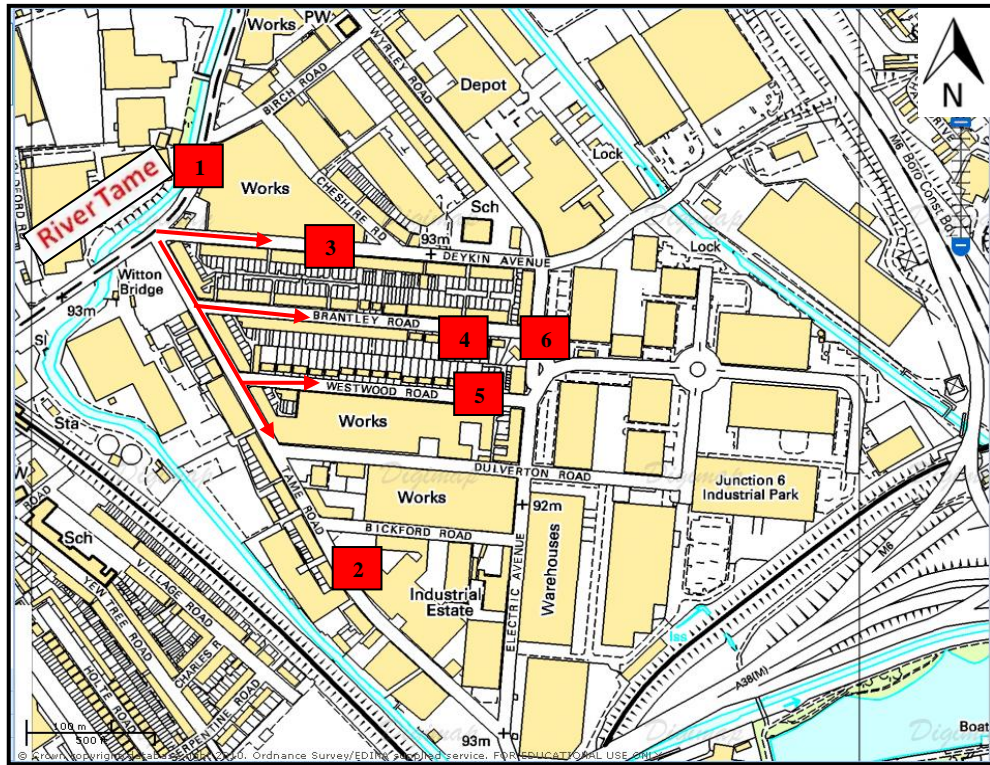


Figure 3.03 The Perry Barr ward: The River Tame which flows around the Witton area of Perry Barr overtopped flood defences in 2007 at Brookvale Road (1). This led to floodwaters flowing into the numbered streets from the direction of the arrows (Digimap, 2011)



Figure 3.04 Flooding of the River Tame in the Perry Barr ward of Birmingham in 2007. Flooded street is Brantley Road looking towards Tame Road (Berry, 2007)

The Witton area of Perry Barr is located within flood zone 3, a high flood risk zone, which means that each year this area has a chance of river flooding greater than one chance in thirty (3.3%).

### 3.3.3 Perry Barr ward: Ethnic minority data

The ethnicity data for the flooded streets in Perry Barr indicated that there were diverse minority ethnic groups in the area (Table 3.03). This included Pakistani, Indian, Bangladeshi and Caribbean migrants. This supported the information provided by local key stakeholders.

Expected ethnic groups in flood risk areas of Perry Barr study site (Based on 2001 Census) (% of sample) Total 1857 people in 6 streets			
White	53%	Other Black	1%
Pakistani	15%	African	1%
Caribbean	10%	Chinese	1%
Indian	5%	Mixed Asian	1%
Bangladeshi	4%	Other Asian	1%
Irish	3%	Other Mixed	1%
Mixed Caribbean	3%	Other White	1%

Table 3.03 Ethnic diversity in 6 flood prone streets in Perry Barr based on 2001 Census (ONS, 2014c)

The Perry Barr ward had recently flooded and had greater ethnic diversity than the other districts in Birmingham. There was potential to locate migrant generations within the established communities in the area. On this basis, the Perry Barr ward was selected as a study site for this research.

### 3.4 Ravensthorpe, Dewsbury

Ravensthorpe was also identified as a potential study area by key stakeholders. The research conducted on the area to justify it as a study site is discussed in this section.

Dewsbury is a town in the Kirklees borough of West Yorkshire (Figure 3.05). Dewsbury has three council wards: Dewsbury East, Dewsbury South and Dewsbury West. Ravensthorpe is located in Dewsbury West (Figure 3.06).



Figure 3.05 Dewsbury, West Yorkshire, England (Google maps, 2014)

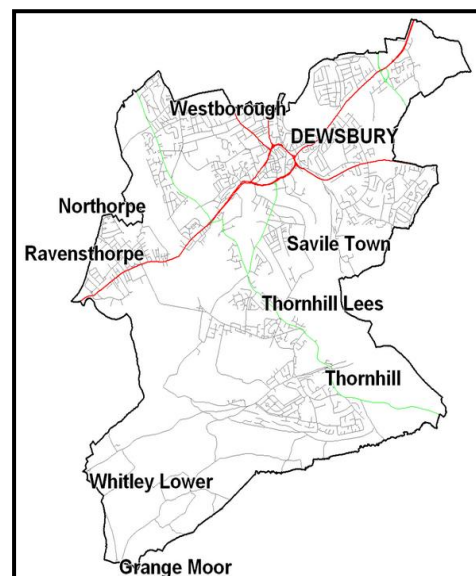


Figure 3.06 Ravensthorpe, located in the Dewsbury West ward (Kirklees council, n.d)

### **3.4.1 Flooding in Kirklees**

Kirklees has experienced a number of flood incidents which have caused damage to property and infrastructure. There was significant local flooding in 2002, 2004, 2007, 2008 and 2012 in various locations across the borough (Kirklees Council, 2013). The main sources of flood risk are flooding from rivers and surface water (EA, 2010).

The two main river systems in Kirklees are the River Calder to the north of the district and the River Dearne to the south. The rivers have their headwaters in the Pennines and ultimately flow to the Humber estuary. In terms of fluvial flooding, the flood risk is concentrated in urban communities. In the lower reaches, the River Calder flows through urbanised areas with major concentrations of population, such as Dewsbury (EA, 2010).

Surface water flooding in Kirklees is described as flooding from surface water sewers, drains, and small watercourses, which occurs during heavy rainfall in urban areas (Ghee, 2011). It is caused and influenced by the intensity and location of rainfall, the capacity of the sewer system, type of surface material and saturation of the ground.

Surface water flooding includes pluvial flooding, where high intensity rainfall leads to flooding because water cannot enter drainage networks which are full to capacity. It also includes groundwater flooding, where water rises from underlying ground to the surface as a result of sustained increased rainfall which raises natural groundwater levels. In Kirklees, groundwater does not break through to the surface of the ground, but in many older properties with basements, groundwater flooding to 'below ground' rooms is common (Kirklees Council, 2013).

Sewer flooding is also considered to be part of surface water flooding. It occurs when the capacity of underground sewer systems is exceeded through lack of hydraulic capacity. Finally, in Kirklees flooding from 'Ordinary' watercourses is seen as surface water flooding. This is flooding as a result of the capacity of watercourses being exceeded, but these watercourses are not designated as main rivers (Ghee, 2011).

The flooding in the summer of 2007 highlighted the interaction between surface water and fluvial flooding in Kirklees. There were isolated incidents of fluvial flooding across Kirklees. The majority of property flooding was caused by surcharging surface water systems or the inability of the systems to discharge freely into main rivers due to high river levels. One of the flooded hotspots was Ravensthorpe (Kirklees Council, 2013).

### **3.4.2 Ravensthorpe: 2007 floods**

The River Spen is a tributary of the River Calder and they have their confluence at Ravensthorpe. Therefore the majority of the area lies in the highest fluvial flood risk zone,



although there have been no recent records of flooding from the Calder or the Spen. The Ravensthorpe community also experiences surface water flooding.

In the summer of 2007, high river levels restricted the free discharge of watercourses and public sewers. This led the drainage system to 'back up' and flood the basements of the Victorian terrace properties in the Ravensthorpe area (Ghee, 2011).

There were also incidents of groundwater flooding in the basements of properties. The majority of basements were used as living spaces, leading to damage and disruption to the inhabited rooms (Ghee, 2011). Pluvial flooding also led to water entering basements from outside the property. Finally, properties were at risk from 'ordinary' watercourse flooding as the Canker Dyke, a tributary of the River Spen flooded and floodwaters reached up to gardens and doorways of properties.

The areas where properties were affected by surface water flooding through groundwater and pluvial flooding included: (1) Broomer Street, (2) Victoria Street, (3) Dearnley Street, (4) Myrtle Road, (5) Lee Street, (6) Garden Street, (7) Beacon Street and (8) Field Street. Kingfisher Crescent (9) was affected by surface water flooding from the Canker Dyke 'ordinary' watercourse (Figure 3.07). Approximately 200 properties were affected in total.

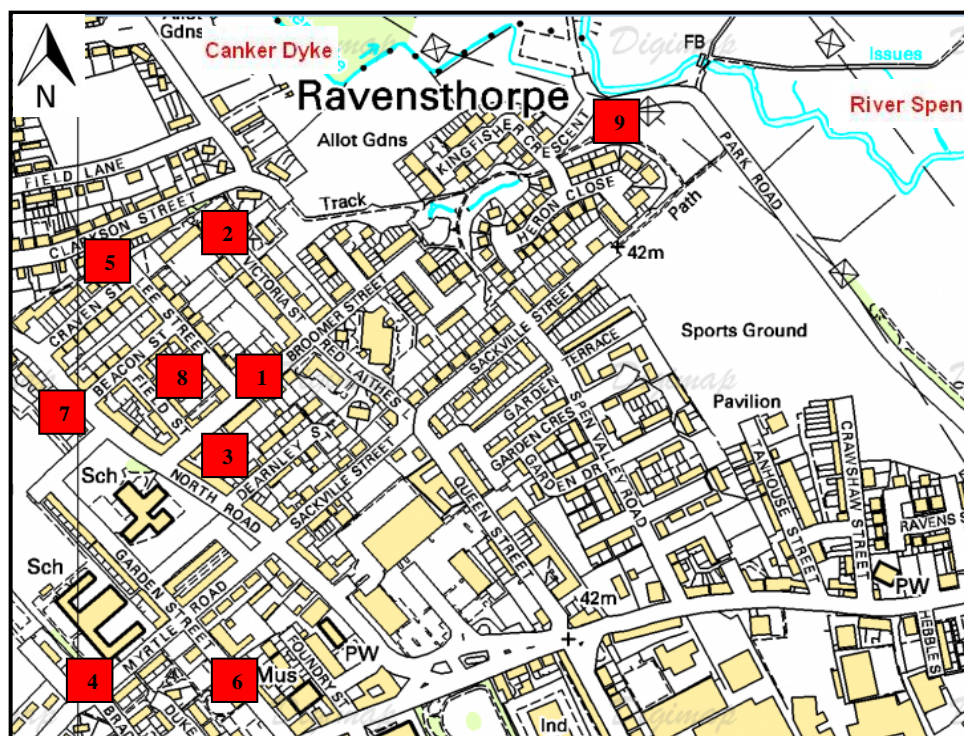


Figure 3.07 The Ravensthorpe community where properties were affected in several streets (numbered) by groundwater and pluvial surface water flooding as well as 'ordinary' watercourse flooding in 2007. The Canker Dyke flows to the north of the community where it joins the River Spen to the north-east of the community (Digimap, 2011)



The Ravensthorpe area is located in flood zone 2, which is the extent of an extreme flood from rivers or the sea. The area has a low risk of flooding from rivers or the sea; each year the chance of fluvial flooding is between one chance in a thousand (0.1%) and one chance in a hundred (1%).

There are several streets that are at risk of surface water flooding. The level of risk ranges from low; each year the chance of flooding is between one chance in a thousand (0.1%) and one chance in a hundred (1%), to medium; the chance of flooding in a year increases to between once chance in a hundred (1%) and once chance in thirty (3.3%). There are also streets at high risk of surface water flooding, which means in each year the area has a chance of flooding greater than one in thirty (3.3%).

### 3.4.3 Ravensthorpe: Ethnic minority data

The ethnicity data for the flooded streets in Ravensthorpe was accessed through the ONS. Data could only be accessed for the majority of the flooded streets, which also included the surrounding streets that had not experienced flooding in 2007 (Figure 3.08). As there was no specific data on the individual streets that had experienced surface water flooding, this data was used as an approximate indication of the ethnic diversity in the area.

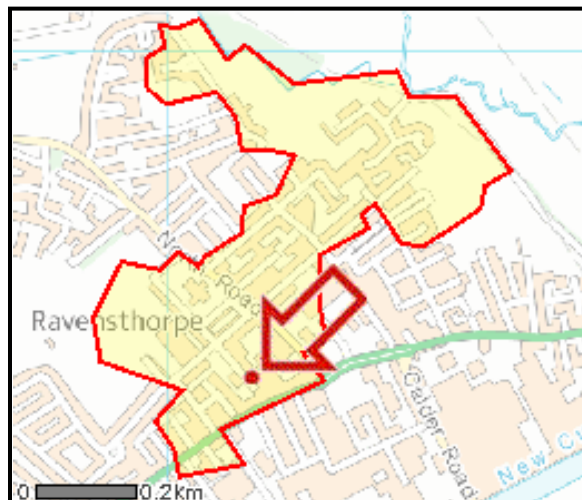


Figure 3.08 Ethnicity census data was accessed for the outlined area in Ravensthorpe. This included the streets that did and did not flood in 2007. The arrow indicates Garden Street which did flood (ONS, 2014c).

The data indicated that the largest minority ethnic group in the area was Pakistani, with lower numbers of Indian, Black Caribbean and Irish groups (Table 3.04). Key stakeholders highlighted that along with the ethnic minority groups identified, there were also Hungarian and Romany ethnic minority groups in the area. They emphasised that there were established communities in the area, providing the opportunity to speak with migrant generations.

<b>Expected ethnic groups in flood risk areas of Ravensthorpe (Based on 2001 Census) (% of sample) Total 1837 people in flood prone area (approx)</b>	
White	46%
Pakistani	45%
Indian	3%
Other Asian	2%
Black British	1%
Black Caribbean	1%
Irish	1%
White other	1 %

Table 3.04 Ethnic diversity in flood prone area in Ravensthorpe based on 2001 Census (ONS, 2014c).

It was decided that there was ethnic diversity in the area, albeit less than Perry Barr, but based on the advice of key stakeholders and taking into account the dated census data and lack of data for certain flood prone streets, there would be opportunity to speak with different migrant groups. Ravensthorpe would be a suitable location for the research based on the recent flood history and the established communities, which was important in order to address the intergenerational aspect of the research. The analysis process would involve combining the datasets from Perry Barr and Ravensthorpe and thus would still allow ethnic diversity and different generations within the sample. Subsequently Ravensthorpe was selected as a study site for this research.

#### **3.4.4 Study locations**

This research recognises that the study sites selected were different; Perry Barr experienced fluvial flooding, whilst Ravensthorpe experienced fluvial and surface water flooding. The two locations were selected because they had recently flooded and indicated established communities and migrant group diversity. The Ravensthorpe area was found to be interesting based on the surface water flooding causing similar damage to properties as fluvial flooding. It was decided that the two study locations did not need to experience the same type of flooding. The locations were not compared or contrasted; the data from each location would be combined in the analysis process to explore the aims and objectives.

There may be concern about using two locations that had different types of flooding. It is acknowledged that based on the extent of impact, experiencing fluvial flooding in comparison to surface water flooding may affect risk perceptions in England differently, especially in relation to the type of experience abroad. Yet it has to be considered that not all individuals have the same flood experience and thus risk perceptions even if they were located in the same flooded area. Thus the type of flooding experienced in England was not a main factor, it was more important to understand how flood experience abroad affected risk perceptions in England. Thus it was decided that two locations with different types of flooding could be used for this research.

### 3.5 Summary

There is no one database on the location of migrant groups in the UK. In order to conduct this research, there was a need to locate migrant groups in flood prone areas. This was achieved through using census data and a community study. ‘Country of birth’ census data provided information on migrant groups. The initial approach of locating migrants by combining ‘Country of birth’ data with flood warning areas was unsuccessful. Subsequently a community study was conducted (Figure 3.09). This involved identifying flood prone locations combined with ‘Country of birth’ data. 60 flood prone locations with potentially high migrant numbers were identified. Limitations included dated census data, and use of data for larger areas than those that flooded. Certain locations were excluded due to low ethnic diversity.

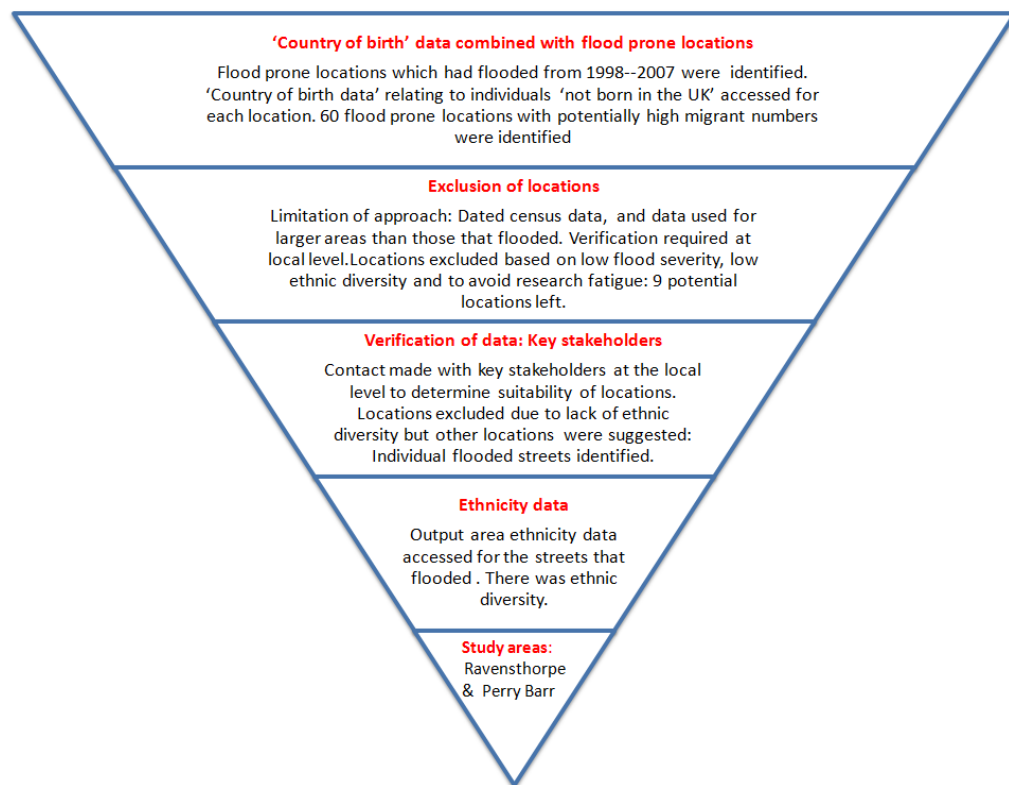


Figure 3.09 Community study approach to locating flood prone areas with migrant communities. Study sites were narrowed down based on the advice of local stakeholders and ward ethnicity data.

The remaining locations were researched further at the local level. A number of locations were excluded based on the advice of key stakeholders. They suggested locations where there was ethnic diversity. There was a need to reinforce the information provided by key stakeholders. This was achieved through using ethnicity data and researching flood histories. Local knowledge combined with output area ethnicity data led to greater confidence that the suggested locations had migrant ethnic minority communities. The community research

approach allowed locations to be narrowed down from the national to the local level, and led to the selection of two flood prone study locations that potentially had migrant group diversity.

### 3.5.1 Future research: A viable method

The method of combining ‘country of birth’ census data with community research was successful in locating flood prone areas that potentially had migrant communities. The approach was time consuming due to the need to verify dated statistics, but as there is no one dataset which provides the location of migrant groups, this methodology was the most appropriate to obtain the data required.

The methodology may be extended based on improvements to the mapping of migrant data. The initial approach of creating a GIS map of flood warning areas against country of birth statistics was viable and required several datasets to be combined. This was a lengthy process, especially as there was no existing ‘Country of birth’ against geographic location map. Since the progress of this research, the ONS has developed an application through which an interactive map allows exploration of locations with the highest percentage of migrants as a group based on the percentage of people ‘Born in the UK’ (Figure 3.10). This is effectively what was attempted in this research, but the map produced was inconclusive due to there being too much data.

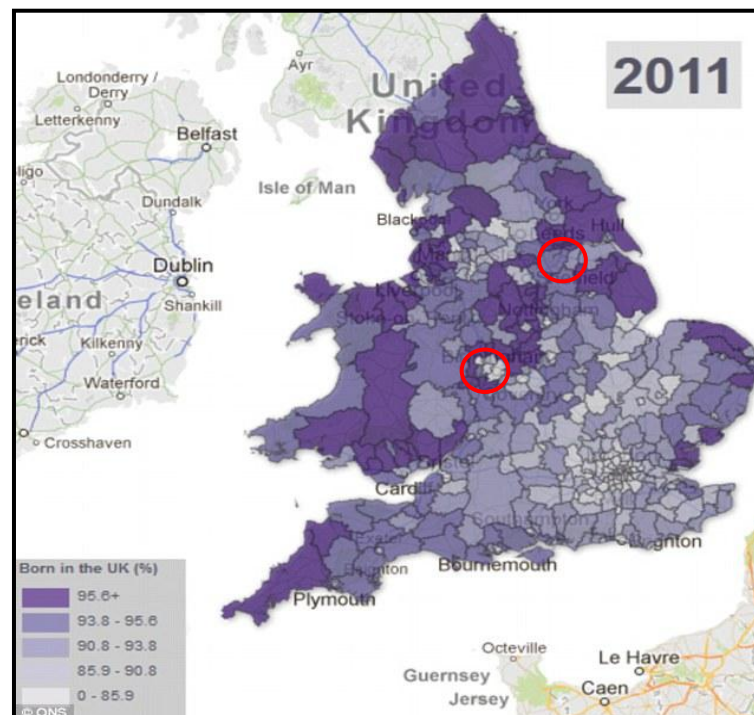


Figure 3.10 The percentage of British born people living in England 2011, with lighter areas (LADs) indicating a higher number of foreign born residents. The circled areas are the locations of the study sites for this research (ONS, 2013c)

The application is easily accessible and can provide an indication of areas where there is a high migrant population in general. The map starts at Local Authority District level (LAD)

and can be made specific to Lower Super Output Area level (LSOA). If the research was repeated, this application would provide a starting point for researching areas with high migrant numbers, which could not be achieved in this research as there was too much data on the map, and thus different migrant groups had to be mapped individually. Flood prone areas would then be researched further based on the areas with high migrant numbers. Incidentally, based on this map (Figure 3.10) the final study locations for this research are in areas where there are high migrant numbers.

If further research was conducted focusing on specific migrant groups, recently developed ONS applications allowing ethnic groups to be mapped by location could be used (Figure 3.11). This is an updated and easier application of the GIS map of Indian migrants located in flood warning areas created for this research (Figure 3.0) and alongside flood warning area data and community research, it may be used to locate specific migrant group communities.

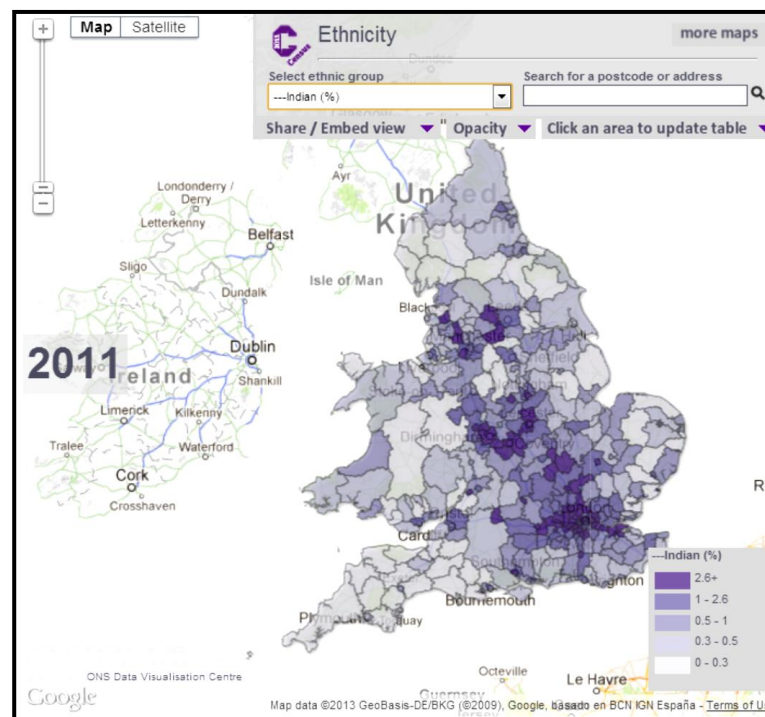


Figure 3.11 The percentage of individuals of Indian ethnicity living in England 2011, (ONS, 2013d)

It is recognised that despite the development of mapping tools, the data would not be specific enough to highlight if migrants were located in flood risk areas. The maps would only provide an indication of where they may be located at LAD and LSOA level. The census data would still be dated and there may still be issues with individuals not completing the census survey, although lessons have been learnt from the 2001 census; preparation for the 2011 census involved information and engagement campaigns in diverse languages and migrant community organisations engaging with their communities to encourage people to complete the census. This was achieved through raising awareness of the census via events,

workshops and media sources, dispelling misconceptions about the census relating to confidentiality and fear that the data would be used to police immigration and employment issues and providing practical support in terms of helping people fill in and return their census forms (Camilo, 2011).

If the research was repeated, engagement approaches which may encourage higher census response rates amongst black and ethnic minority communities and the mapping tool applications would make it easier to identify locations with a high number of migrants, or specific migrant groups, but a community study involving local stakeholder knowledge and research would still need to be conducted to locate migrant groups at the local level. As there is no one database on the location of migrant groups in the UK, the successful methodology in this research has the potential to be developed further based on improvements to statistical applications and the continued use of community research to locate migrant groups.

The community study approach involved using census data and stakeholder knowledge to locate flood prone areas that potentially had migrant communities. There was still a need to locate migrant groups within the communities and engage with them in order to conduct the research and fulfil the research objectives. This was achieved through questionnaire surveys and one to one interviews as part of the community study and is discussed in detail in Chapter 4.

# Chapter 4: Engaging with migrant communities

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## 4.1 Introduction

The research design for this study included a ‘dominant - less dominant’ mixed method approach as part of the community study. The research methods included questionnaire surveys and one to one interviews. The combination of research methods allowed engagement with the community, the identification and recruitment of migrant groups in the study locations and exploration of the aims and objectives.

This chapter discusses the research approach to this study in the context of philosophical and theoretical debates of using a mixed methods approach. This includes an outline of the justification behind the use of each research method within the mixed method design. The researcher also provides details of her background and how this influenced the decisions made during the research process. There is also discussion of the practical issues of conducting each research method. This involves discussion of the sampling strategy, how being accompanied by family members into the field influenced engagement with and access into the community, participant characteristics, analysis of data and theoretical background of the analysis process. The chapter also provides a reflection on researching with a family member including the immersion and positionality of the researcher, and the identification of power relationships. It also provides a critical evaluation of each research method.

This chapter includes a reflection of the research in terms of how the focus of the thesis is related to the decisions made throughout the data collection process. This is followed by an overview of the ethical and risk issues throughout the research.

## 4.2 The research approach

This section will discuss the mixed methods research design for this study including an overview of the purpose of the questionnaire surveys and one to one interviews. It will explain the social constructivist stance of the study. The paradigm wars relating to mixed methods research will also be outlined, leading to the views of the researcher and a subsequent explanation for the classification of this research as a ‘dominant-less dominant’ strategy within the mixed methods framework. This will be followed by a short introduction about the researcher and her background; this is important to understand in order to provide the context for decisions made during the research process.



### 4.2.1 Mixed methods research

The research design for this study consisted of a mixed methods research approach, where qualitative and quantitative methods were combined in the same study (Brannen, 2005). The combination of census data and community research had led to migrant communities in flood prone areas to be located and identified the research areas for this study (Chapter 3).

There was a need to identify the migrant groups and migrant generations in the study locations, and importantly recruit them for the research. As part of the community study, a mixed method research approach was therefore applied to locate migrants and conduct the research amongst them. The research methods included questionnaire surveys and one to one interviews in a ‘sequential mixed methods research strategy’; quantitative data collection and analysis is undertaken first, followed by qualitative data collection and analysis (Creswell, 2009) (Figure 4.0).

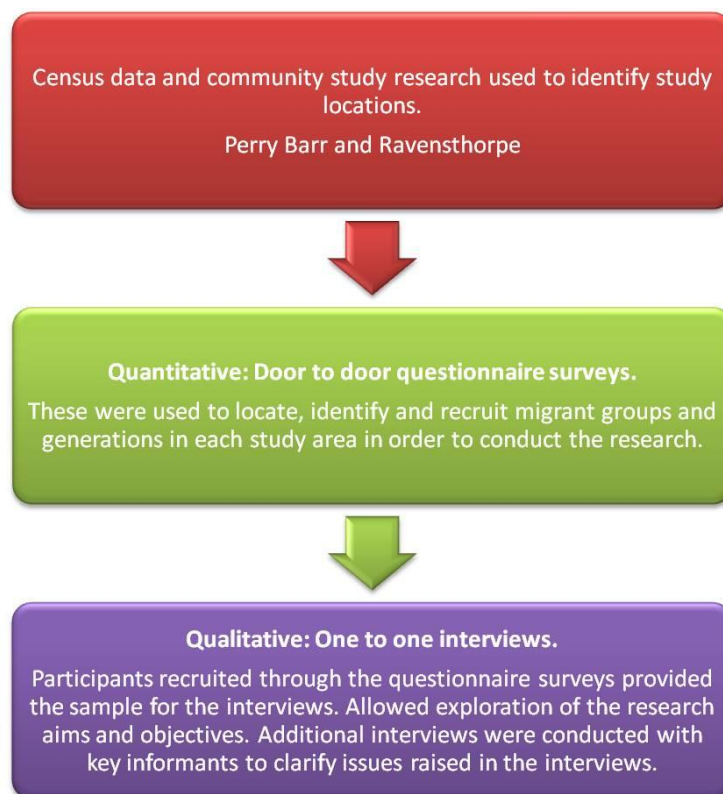


Figure 4.0 The research design of this study involved a mixed methods approach. A quantitative method was used to locate and recruit participants for the main qualitative part of the research.

### 4.2.2 Quantitative research

A quantitative research strategy involves a deductive relationship between theory and research; a hypothesis is deduced from the theory and is tested. Quantitative research is based within a natural science approach, where there is a positivist epistemology. The approach involves having an objectivist conception of social reality (Bryman, 2008). Therefore quantitative research may be seen as a “means for testing objective theories by



examining the relationship among variables” (Creswell, 2009:4). Quantitative research aims to use a representative sample of a population in order to be able to generalise findings. There is a focus on the ability for replication, reliability; the consistency of measures, as well as validity; whether an indicator devised to gauge a concept measures that concept.

In this research the quantitative design involved door to door questionnaire surveys. A quantitative method was used to allow knowledge development “through observation and measurement of the objective reality that exists ‘out there’ in the world” (Creswell, 2009:7). The survey research would provide “a numeric description of trends, attitudes, or opinions of a population by studying a sample of that population” (Creswell, 2009:12). Subsequently this method would allow the data to shape knowledge and lead to development of relevant, true statements to explain the situation.

This method was most appropriate as the aim of the questionnaire was to locate and recruit participants for the qualitative research by speaking to one member of the household to capture household characteristics including ethnicity and country of birth and establish whether they had flood experience in England or abroad. The questionnaire was succinct with a closed design. It confirmed which migrant groups were in the area and identified and recruited first and second generation migrants for the intergenerational qualitative aspect of the research. This approach was therefore valid and allows replication. This process enabled engagement with and access into the community. Engagement in the context of this research relates to drawing the attention and interest of individuals within the community and gaining their trust in order to encourage their cooperation in the research. The concept of engagement was important throughout the research process and is discussed in further detail in this chapter.

Furthermore, substantive questions were included in the questionnaire to provide an indication of issues to be explored further in the main qualitative research. The questions focused on notions of risk in relation to worry and flooding, awareness of and response to flood risk, household decision making and integration in the community (Appendix B).

This was a ‘sequential explanatory strategy’ within mixed method research, where qualitative research follows quantitative research to build on and examine the results of the initial quantitative data in detail (Creswell, 2009:211). The advantage of this approach was the straightforward nature of the design, although it took a longer time to complete data collection due to the two separate phases.

### **4.2.3 Qualitative research**

Qualitative research is based in a contrasting epistemology to positivism. It involves an inductive approach, where theory is the outcome of research. It is based within an interpretivist paradigm and thus there is a belief that there are no objective realities and the world is socially constructed, with different interpretations of reality. Qualitative research is therefore “a means for exploring and understanding the meaning individuals ascribe to a social or human problem” (Creswell, 2009:4). It involves emerging questions and procedures, data collected in the participant’s setting and data analysis inductively building from particulars to themes. The researcher then makes interpretations on the meaning of the data.

Qualitative research was the main research design used to explore the research objectives in this study. The aims and objectives of this research related to understanding migrant generations’ experiences of and responses to flooding in England and abroad. Exploratory research was required to gain insight into individual’s attitudes to taking the advice of elder generations and how this communication may have affected response to flood risk.

It was felt that this exploratory research could only be achieved through qualitative methods, where there is an interest in lived experiences and a focus on understanding the world from the perspective of the subject; “qualitative researchers are interested in meanings, how people make sense of their lives, experiences, and their structures of the world” (Creswell, 1994: 145). This was important to fully explore the underlying reasons for individual’s flood risk perceptions.

A quantitative methodology based within a positivist paradigm, where there is a belief that there is a single reality and accurate truth which can be sought through objective data would not be appropriate, especially as the researcher would have to eliminate biases, and remain emotionally detached from the objects of study (Johnson & Onwuegbuzie, 2004). Qualitative research would allow the researcher to interact and build a relationship with the participants to discuss and interpret sensitive and personal issues, which may not be as achievable using quantitative research that seeks to remain objective.

### **4.2.4 One to one interviews**

The four traditions of qualitative research include naturalism, ethnomethodology, emotionalism and postmodernism. In this research, an ethnomethodology approach was applied, which seeks to understand how social order is created through talk and interaction. One of the methods within this tradition is interviewing; “one of the most common and powerful ways in which we try to understand our fellow human beings” (Fontana & Frey, 2000: 645). One to one interviews were used in this research because they allowed

exploration of meaning and individual perceptions in a flexible and adaptable way; “interviewing is a way of uncovering and exploring the meanings that underpin people’s lives, routines, behaviours and feelings” (Arksey & Knight, 1999: 32).

The main component of the research was to gain ‘stories’ from participants and ensure they felt comfortable revealing personal experiences. Hence, semi structured interviews were the most suitable interviewing technique as they are characteristic of having open ended questions which participants are hoped to answer freely; “ ‘interviewed subjects’ viewpoints are more likely to be expressed in an openly designed interview situation than a standardised interview” (Flick, 2002: 74).

The interview design would also encourage co-operation and produce unanticipated answers (Robson, 2002) as well as allowing the interviewer freedom to inquire in greater detail about issues raised by the interviewee. It has to be considered that the role of the researcher is important; there is realisation that “interviewers are increasingly seen as active participants in interactions with respondents, and interviews are seen as negotiated accomplishments of both interviewers and respondents that are shaped by the contexts and situations in which they take place” (Fontana & Frey, 2000: 663). The role of the researcher in shaping this research therefore has to be acknowledged and is discussed further throughout this chapter.

The structure of the semi structured interview included firstly enquiring about previous flood experience in order to put participants at ease and encourage the conversation. This led to an understanding of how the flood event occurred and affected the individual. The remaining themes of ‘integration into the community’, ‘interaction with other generations’, ‘notions of flood risk’ including emotions (affect) such as worry as well as ‘response to flood risk’ could subsequently be explored in relation to their flood experience (Appendix C). The interviews were face to face and held in resident’s homes. This was beneficial as it provided the opportunity to probe and adapt questions and residents could highlight the extent of damage caused by floodwaters, furthering their recollection of the event.

The interviews added rigour to the research as they allowed the researcher to enforce confirmability by talking to participants and probing them to check the credibility of information they provided. The sample was purposive and small and hence data was not generalisable but would add validity to the research based on the collection of rich data from specific individuals, which could then be interpreted in the analysis process.

#### **4.2.5 Social constructivism**

It has been discussed that qualitative research was suitable for this research based on the interest in ‘meaning’. There is a need to explore the epistemological stances of qualitative

research in further detail to provide an understanding of the research stance of this study and the role of the researcher.

Within interpretivism, it is argued that “to understand a particular social action, the inquirer must grasp the meanings that constitute that action” (Schwandt, 2000:191). It is believed that “it is possible to understand the subjective meaning of action yet do so in an objective manner, the meaning that the interpreter reproduces or reconstructs is considered the original meaning of the action” (Schwandt, 2000:193). This involves the interpreter employing a method which allows them to step outside of the historical frames of references in order to avoid misinterpreting the original meaning. “Thus in interpretive traditions, the interpreter objectifies that which is to be interpreted...and remains unaffected by and external to the interpretive process” (Schwandt, 2000: 194).

There is a close relationship with interpretivism and social constructivism. This research takes a social constructivist viewpoint because of the involved role of the researcher within the interviewing and interpretation process. Within constructivism it is argued that the mind is active in the construction of knowledge. Knowledge is not seen to be passive; “constructivism means that human beings do not find or discover knowledge so much as we construct or make it” (Schwandt, 2000: 197). Models are invented to make sense of experiences and these are continually tested and modified in the light of new experiences; individuals “seek understanding of the world in which they live and work”, and develop subjective meanings of their experiences (Creswell, 2009:8). The subjective meanings have been negotiated historically and socially, “they are not simply imprinted on individuals, but are formed through interaction with others (hence social constructivism) and through historical and cultural norms” (Creswell, 2009:8).

This means that in the context of this research, the researcher had to look for the complexity of views as opposed to narrowing meanings into few themes. The researcher relied on the view of the participant and therefore interviewing involved questions which were broad and general to allow the participant to construct the meaning of a situation. The researcher had to address the process of interaction amongst individuals and focus on the contexts of people’s lives to understand historical and social settings. This allowed individual’s behaviours to be understood by exploring how meaning is constructed in the social context, such as through flood experiences or family reinforcement. This process allowed the researcher to interpret the meaning others have of the world and develop theory from the data in relation to the research objectives.

In this philosophy, it is therefore important to understand that participants ‘constructed’ knowledge based on their experiences and the researcher would interpret the meanings. “The researcher has to recognise and acknowledge that their background shapes their

interpretations, which flow from their personal, cultural and historical experiences” (Creswell, 2009:8). The reflexivity of the researcher is therefore important within qualitative research; “reflexivity forces us to come to terms not only with our choice of research problem and with those who we engage in the research process, but with ourselves and with the multiple identities that represent the fluid self in the research setting” (Lincoln & Guba, 2000:183). The reflexivity of the researcher and reflexivity relating to the research methods used is discussed throughout this chapter.

#### **4.2.6 Paradigm wars**

Mixed methods research is seen to be advantageous as results may be analysed through triangulation, allowing the researcher to improve accuracy of conclusions by relying on more than one type of data (Rossman & Wilson, 1984). Additionally, mixing methods may be seen as more robust as they may reveal dimensions of a phenomenon by addressing different but complementary questions (Robson, 2002:371).

Nevertheless, it is recognised that there are debates about mixed methods research because they not only differ through data collection procedures but are seen to be rooted in different paradigms and epistemologies. Researchers have individual assumptions and ontological beliefs about the nature of reality and knowledge which guide their beliefs about research methods (Rocco et al. 2003). Consequently, qualitative-quantitative paradigm wars about compatibility of methods have created purist, situationalist and pragmatist researchers (Onwuegbuzie & Leech, 2005).

Purist researchers “restrict themselves exclusively to quantitative or qualitative methods” (Onwuegbuzie & Leech, 2005:375). They advocate the incompatibility thesis (Howe, 1988); that assumptions associated with the two paradigms about world views and epistemologies are completely incompatible and hence research methods cannot be combined. The two paradigms embody such fundamentally different knowledge claims that they should not be mixed within a single study (Rocco et al. 2003).

Situationalist researchers believe in mono method research, but concede that certain research questions lend themselves to quantitative approaches, whereas others are suitable for qualitative methods (Onwuegbuzie & Leech, 2005). Hence each method is used for a specific part of the research, but there is no true integration and the two approaches are treated as complimentary with the results presented separately.

Thus purists and situationalists believe that quantitative and qualitative methods should be kept separate; purists keep them in different studies, while situationalists have them side by side in the same study, not letting them completely mix.

Pragmatic researchers emphasise similarities between methods; “both describe data, construct explanatory arguments, and speculate about observed outcomes” (Onwuegbuzie & Leech, 2005: 379). Theory is evident in both paradigms through theory building (qualitative) or theory testing (quantitative) and these common beliefs have led to the pragmatism paradigm which believes these methods are compatible (Tashakkori & Teddlie, 1998:12). Furthermore, pragmatists believe epistemology does not dictate which data collection and analytical methods should be used and research questions should drive method (Hewson, 2006). Hence “differences in epistemological beliefs should not prevent a qualitative researcher from utilizing data collection methods associated with quantitative research and vice versa” (Johnson & Onwuegbuzie, 2004:15).

Additionally, pragmatists argue that epistemologies may be integrated because although positivists believe in objective verification, “decisions are made throughout research which precede objective verification decisions” and are therefore subjective (Onwuegbuzie & Leech, 2005:377). Subjectivity may also be introduced through errors of measurement and therefore techniques used by positivists are not more scientific than interpretivist procedures. Hence the observer is not separate from the entities that are observed and consequently, there is no objectivity in quantitative research (Onwuegbuzie & Leech, 2005). As objectivity is the basis for epistemology, epistemologies are also removed, allowing mixed method research to occur.

On the other hand, it may be argued that by removing objectivity and epistemologies, pragmatists are superficially mixing methodologies because the research question arises from an epistemology; it all depends on epistemology and that determines how you design mixed method studies (Giles, 2006).

In this study a pragmatic research approach was not taken, however, the researcher believes that it is possible to work with more than one method simultaneously, as argued by situationalists, because certain research questions require combinations of methods. In this study, the needs of the research guided the research methods used. The quantitative and qualitative methods had to be used in the same research because it was only when they were combined that migrant participants could be located and the research objectives could be explored; the questionnaire survey was used to locate and recruit migrants for the qualitative research and identify potential research issues. The results from this phase were subsequently used to inform the themes for the semi structured interviews. Therefore this approach was seen to be most suitable as “the results from one method helped to identify participants to study and questions to ask from the other method” (Creswell, 2009:14).

#### **4.2.7 A dominant-less dominant strategy**

Thus, in terms of the research approach being a mixed methods design, the researcher believes that concerns about pragmatic research being superficial are valid. Pragmatists fully integrate methods by ignoring paradigms and removing objectivity. If these are removed and research is classed as 'mixed' then these methods have been forced to integrate in a superficial manner as underlying assumptions of methods are disregarded and the 'mixed methods' are only a combination of technical approaches. Epistemological beliefs are too strong for methods to be mixed at every stage. This is evident in the tensions faced when attempting to combine theoretical literature from different paradigms in 'pure' mixed method studies because they do not integrate even if methods are forced to.

Therefore, in the view of the researcher, the combination of methods used in this research cannot be seen as a 'pure' mixed methods approach. The methodology merely involved application of the most appropriate research methods to conduct the research. The fact that the methods lie in different epistemological backgrounds should not lead to labelling of the research as 'mixed method' because there was no integration of methods at every stage.

This is seen further through understanding that there were different extents to which methods in this research were truly mixed. This research may be labelled 'dominant - less dominant' within the mixed methods framework because there was a main interpretivist paradigm as well as a research method from a positivist paradigm which led to a wider understanding of the research issues to be explored. The dominance of the qualitative methods means the two paradigms were not weighted equally; the project was "theoretically driven by qualitative methods incorporating complementary quantitative components" (Creswell, 1994: 179).

Mixing of the qualitative and quantitative data involved the two databases being separate but connected during the phases of research, "between the data analysis of the first phases of the research and the data collection of the second phase of the research" (Creswell, 2009:208). Additionally, the quantitative data provided supportive information for the qualitative data. This process involved embedding a secondary form of data (quantitative) within the study results which had the qualitative form of data as the primary database (Creswell, 2009). Thus the research approach in this study may be labelled more concisely as dominant-less dominant.

The processes involved and issues relating to conducting the questionnaire surveys and one to one interviews within the 'dominant - less dominant' mixed methods research approach are discussed in detail in Sections 4.3 and 4.4. In order to understand how the research was conducted however, there is a need to understand the background of the researcher as this

influenced the decisions made throughout the research. This is discussed in Section 4.2.8 and is written in the first person to maintain clarity.

#### **4.2.8 The researcher**

I am a female, second generation, British Asian of Indian origin. My grandparents were born in India, my parents were born in Nairobi, Kenya. Although I define myself as, and am very proud to be British, the Asian aspect of my identity is just as important to me. I strive to maintain my ethnic identity through the languages I speak and following religious practices, cultural traditions and beliefs. I am fluent in Punjabi, and can also speak Hindi and Urdu, and as my parents maintain their Kenyan heritage including the traditional language, I inadvertently pepper some Swahili words into the conversation when speaking Punjabi. As part of my ethnic identity, my family is very important to me. I have a close relationship with my family members and rely on their support and guidance, often making decisions after consulting my parents. I have two younger sisters and subsequently my household is female orientated, with my dad being the sole representative of his gender in the home.

I have never been restricted by my family in terms of achieving my goals in life, and I am extremely thankful for their trust in me and their modern outlook on life. I think this arises because my grandparents moved from India to Kenya as teenagers, whilst my parents were raised and educated in Nairobi, Kenya and moved to England in their twenties with my grandparents, who were subsequently double migrants. Thus the patriarchal control and associated gender norms that are often the norm in Asian households and which may originate in countries in the developing world such as in India were never an issue in my home. I have always been encouraged to pursue my education, I have a voice in my home, and the freedom to make my own decisions including deciding when I wanted to get married and whom I wanted to marry. My upbringing defines my identity; I maintain my ethnic identity but am also integrated into my wider community and environment; I am a British Asian.

Nevertheless, although I say that there are no gender norms or social constraints in my home, throughout this research I recognised that there are certain gendered views that I hold that may have been subconsciously guided by my upbringing, especially in a female dominated household. For example, in terms of conducting this research and preparing for fieldwork, there was never a stage when I thought I would be in the field alone. This is related to the norm in my family of individuals supporting each other and of women being seen to be vulnerable if they are out alone. This may be related to my parents' desire to protect their three daughters.



At the time of conducting my research I was 24 and still lived at home with my parents, as is the norm in Asian families. I told my mum about my research and the need to travel to Birmingham and Ravensthorpe to conduct the questionnaire surveys and interviews. She was concerned about my safety and my potential vulnerability in the field as a lone woman. I agreed with my mum; I was uncomfortable being in the field for several weeks on my own and felt that I needed to be accompanied to the study locations for safety reasons. In feeling that I should not be in the field alone, this indicates how I subconsciously agreed with the social constraints in my family, because they were seen to be the norm.

In order to address this issue, my mum and I decided that I would conduct my fieldwork accompanied by my younger sister. It is interesting that the concept of gender norms may include women not being allowed out without a male chaperone, and this ideology may have been implemented in my household, but the enforcement of this norm has changed over time. The social constraint related to me not being encouraged to be alone in the field as I was seen to be vulnerable, and yet this was addressed by two females being encouraged to conduct the fieldwork together. This is important because it reflects the modern thinking in my family, where although there are gender norms in terms of women not being encouraged to go out alone, this relates to the safety and vulnerability of women, as opposed to protecting the izzat of the family.

Therefore, although it cannot be said that there are no social constraints in my home, I maintain that the perceived constraints are much less extreme than those discussed in the wider context and especially related to the findings of this research. They indicate the changing ideology behind social constraints from that of honour and izzat and the enforcement of control because women are not trusted, to an environment where women are trusted and chaperones are encouraged to decrease their vulnerability from external sources. In my household, the social constraints related to safety and importantly my sisters and I have always been encouraged to support each other. Thus it is not about needing a male chaperone but about being responsible for ourselves and each other as women.

Additionally, the questionnaire surveys would be conducted in communities where it was expected that there would be ethnic minority migrants from South Asian countries where patriarchal control may be the norm. A lone British Asian female researcher may not have been culturally appropriate for certain migrant groups, but two females researching in the area would be more acceptable, encouraging cooperation from the community. Thus being accompanied into the study locations by my sister was both for safety reasons and in order to respect any cultural views held by the migrant ethnic minority groups researched.

My sister accompanied me into both study locations when conducting the questionnaire surveys and was also present for the majority of the one to one interviews. Although I can

speak and understand Punjabi, Hindi and Urdu, I thought it was important to have a translator when conducting the one to one interviews with non - English speakers. This would allow me to focus on the participants and their responses without having to concentrate on translating the questions myself throughout the interview.

My mum subsequently accompanied me into the field as a translator as she has a greater depth of vocabulary than my sister and would be able to translate questions where required. I decided I would use my mum as a translator as opposed to an external translator from within each of the study locations as I felt I could explain the research focus and the purpose of each question to her in detail. This understanding would allow consistency in how the questions would be asked in both study locations and reduce bias relating to having a different individual asking the question differently in each study area. This would run the risk of questions being interpreted differently, potentially influencing the response of participants.

Furthermore, as my sister accompanied me when conducting the questionnaire surveys, this relationship facilitated access to individuals, as will be discussed in detail in this chapter. I wanted to continue this familiarity when conducting the one to one interviews and thus where my sister could not act as translator, I thought my mum as another family member would be able to further encourage cooperation amongst participants. This is also discussed in detail in this chapter.

The one to one interviews were therefore undertaken with either my sister or my mum; having one of them there was important for safety reasons. It is important to note that I conducted the actual questionnaire surveys and one to one interviews myself. The distinction between being accompanied by my mum or my sister was about language; my mum was only present for the interviews when a translator was required.

It is recognised that this is an unusual method of conducting research, and there may be biases relating to conducting the research in this way. This chapter discusses this research approach in further detail, examining the related strengths and biases in turn.

### **4.3 Questionnaire surveys**

This section will discuss the practical issues relating to how the questionnaire surveys were conducted, including the sampling strategy and the focus on visibility and familiarity, as well as the advantages relating to the researcher having her sister accompany her into the field. It will outline how the data was analysed and which migrant groups were identified. This section will also provide a reflection of the research approach including discussing the biases related to having a family member in the field and critically evaluate the questionnaire

survey method within this research. There will be some sections throughout that are written in the first person to avoid confusion.

#### **4.3.1 Sampling strategy**

The sampling strategy for the research as a whole was purposive, aiming to “seek out groups, settings and individuals where processes being studied are most likely to occur” (Silverman, 2005:129). A purposive strategy was used because the research aimed to address intergenerational risk communication and thus the sample population needed to include different generations of migrants as well as non migrants in flood prone areas. Additionally, within the sample there should have been participants with and without flood experience for risk communication between generations to be explored. It would have been impractical to conduct random sampling in each location to find participants for the qualitative research.

Therefore the sampling strategy for conducting the questionnaire surveys included exploring the flood maps for the two areas to identify which streets were located in the extent of the 1% (flood zone 3) and 0.1% (flood zone 2) flood outline and mapping the houses. This would provide the flood prone ‘community’ amongst which to conduct the questionnaire surveys. Every house within this ‘community’ would be targeted with the same questionnaire, therefore ensuring reliability of the data; the consistency of a measure of a concept (Bryman, 1998:149).

In Perry Barr only the 6 streets that had flooded in the 2007 floods were included because the remaining streets in flood zone 3 housed industrial buildings. All the properties in these streets were targeted for the questionnaire survey, providing a population of approximately 508 properties. In Ravensthorpe, the questionnaire surveys were conducted in the 9 streets that flooded in 2007, as well as an additional 7 surrounding streets located within both flood zone 2 and the surface flood risk area. This provided a population of approximately 558 properties.

The number of people who completed the questionnaires was therefore a sample of the flood prone community in each area. Participants who completed the questionnaires were asked if they were willing to take part in the qualitative part of the research (purposive sampling). Thus the qualitative interviews were based on a sample of the questionnaire surveys.

#### **4.3.2 Visibility, familiarity, trust and hospitality**

The following section is written in the first person to maintain clarity. In order to encourage trust and response from participants, I aimed to make myself and my sister visible and familiar to the community. This attempt at engagement was achieved through walking in the area when door knocking and visiting local facilities such as community centres when

conducting the questionnaire survey. Leaflets providing information were left at the community centre and local schools to raise awareness of the research (Appendix D).

The questionnaire surveys were conducted systematically street by street with every house being visited at least once. Residents not available during the day were then visited in the evening and vice versa to make sure every effort was made to sample every household within the sampling framework. Leaflets were posted through their letterboxes to make them aware that the researcher would be returning (Appendix E). As the research was conducted in the summer, the days were longer increasing the opportunity to talk to residents in the evening.

I recorded the questionnaire survey data to ensure consistency in data collection and avoid translation of questionnaires. Participants were given a selection of laminated cards to select Likert (rating) scale answers from: (Slightly worried, worried, very worried). This made it easier for participants to respond to questions through visual aids.

I found that having a family member and especially a female accompany me when conducting the questionnaire surveys was beneficial as there was a pre-existing relationship between us, and as a family unit we were attempting to access another family unit. Our family status provided us with an entry point into the community amongst migrants and non migrants.

This is discussed further in the context of existing research by Alam (2014) who explored how ethnicity, gender, generation and migration shaped the experience of Muslim children of Bangladeshi descent in New York. Alam (2014) aimed to conduct his research through observations of parent-child interactions in participants' households. He noted that despite sharing the same ethnicity as the participants in his research, he was unable to access the Bangladeshi households to interview their children and especially girls because they were overprotected. In order to overcome this issue, he deployed his marital status and involved his wife in playing an active role in contacting and engaging with the mothers of potential female informants and recruiting them through snowball sampling. This strategy was a slow but effective method of explaining the purpose of the study to the fathers, the heads of the household and decision makers in order to gain their informed consent.

As a precondition to interviewing their children, Alam (2014) and his wife were required to eat lunch or dinner with the consenting parents. During an interview with an informant, Alam (2014) would be in a separate room while his wife socialised with the parents and primed them for the informal discussion that Alam (2014) would have with them after his interview with their children. Alam (2014) states that this arrangement afforded him unique opportunities; "it allowed me to stay at the families' homes longer, gain the parents' trust,

establish greater rapport with their children and observe the parent- child interactions in the natural setting without appearing to be intrusive or an outsider looking in” (Alam, 2014:343).

It can be seen that Alam (2014) utilised his relationship with his wife in order to access the community, and similarly in the context of this research, being accompanied by my sister allowed me access into the community and into households because as a family unit we were seen to be trustworthy and approachable, evoking cooperation from the community.

This was evident because whilst the questionnaire surveys were conducted there were local issues in the study locations such as burglaries instigated by people knocking on doors. Hence residents were wary about opening their doors. The leaflets that were posted through letterboxes highlighting the door knocking activities (Appendix E) were extremely useful in this sense as they raised awareness of the research and the researcher was expected to return. Thus residents were more willing to open their doors.

Furthermore, the fact that my sister and I were instantly recognisable as siblings and wore smart - casual clothing (with ID) was also beneficial because residents opened their doors to us thinking we were not from the council or an official body and were not trying to take advantage of them through ‘door selling’. Instead they were genuinely interested in why we were door knocking as they had seen us knocking on their neighbour’s doors and especially because they recognised us as being in the area over several days.

Additionally, respondents who had completed the questionnaire survey recognised my sister and I whilst we were walking in the area and often stopped to say hello. This familiarity was achieved because my sister and I have a good relationship and rapport and maintained this whilst conducting the questionnaire surveys. We were friendly, open and honest about our relationship, and emphasised that I was a student working on my PhD research, which was part funded by the Environment Agency, and my sister was accompanying me into the field for safety reasons. This transparency resonated with residents especially those from the South Asian community because they respected and approved of our decision to work together especially in relation to cultural norms about women and their vulnerability. It was mentioned that this decision was encouraged by our mum and this led to further approval and a positive attitude from residents who were then willing to participate in the research.

In researching in this manner, and revealing the relationship between my sister and I we gave the impression that we come from a good family background, and that our parents had sent us into the field in good faith. We had been sent together for our safety and we were door knocking for my own research to further my education. This resulted in the resident not seeing us as a threat because they understood our family background and what we were

trying to do in the field, and trusting us because we revealed it to them. This honesty allowed us to connect and engage with the residents and encouraged their participation in the research. Subsequently we became familiar to the residents in the community as the ‘sisters from London doing research’.

This familiarity benefited us further as residents who we had already spoken to talked about us to friends and family in the area and discussed how they completed a questionnaire survey. Thus when these properties were visited, the resident was expecting us and was more open to participating in the research especially as we had been endorsed by their friends and family in the community.

Additionally, some residents stated that seeing us door knocking daily evoked their sympathy and this led to them completing the questionnaire survey. This may be related to them viewing us as two women who needed their help, as opposed to strangers who were only seen once in the area and may have been perceived to be a threat especially in relation to the local burglaries. Thus our female unit was advantageous in encouraging a response from participants. There were also some non-English speaking residents who admitted that they had seen us in the community and opened their door to us based on our ethnic appearance and the presumption that we would be able to converse in their mother tongue.

Alam (2014) discussed how his relationship with his wife allowed him access to Bangladeshi households and how dining with the parents in his study was a prerequisite to being given consent to interview their children. Similarly, there were several instances where we were invited into participants’ homes to conduct the questionnaire survey. This hospitality was extended because we had been honest about our relationship; we were seen as a trustworthy family unit (as Alam (2014) and his wife had been) and importantly as two women who needed the help of individuals in the community.

In one of the study locations, whilst explaining the research to a young Muslim woman on her doorstep, there was a sudden heavy downpour. We were invited into her home and completed the questionnaire with her in English. In the meantime, her mother who could not speak English prepared tea and a hot meal for us and did not let us leave until the rain stopped. This may be seen as compassion from the mother combined with cultural hospitality, and it would have been incredibly rude and offensive to decline.

Therefore, the survey was completed with her daughter, and we greeted the other people in the room such as her father and brother as was respectful and also conversed with the mother in her spoken language. In this way I reassured them about the research I was doing, that I would not pass the information on and that I was not selling anything. This encouraged the family to give their permission for their daughter, who was over 18 to partake in the one to

one interviews. This is important because we were only invited into the strict Muslim household because we were women and were trusted because we were siblings. In being open and honest about our relationship, this gave us access to the family; their hospitality allowed us to create a rapport with participants and encouraged them to allow the women in the family to take part in the research. As women we were given consent to return to conduct the one to one interviews because we had been 'vetted' by the family and it was acceptable for the women in the family to speak with other women. This unique opportunity to access women who may not otherwise have a voice may not have been provided for a male researcher.

Furthermore, the concept of 'lived' and 'state' defined ethnicity was discussed earlier, and is also relevant to consider here along with religion. I am a Sikh of Indian origin, and in researching within the South Asian community in the flood prone communities in each location, I was aware that in many cases I was speaking to an individual who was of a different religion and ethnicity than I was. There were Sikh, Muslim, Christian and Hindu participants who defined themselves as being Indian, Pakistani, Bangladeshi, Sri Lankan, or Afghani. The state may impose these categories, but in reality, in daily life I don't feel that I live by these categories and neither did the people I interviewed.

It has been discussed how South Asian migrants in this research defined themselves as a community, and I felt that they saw me as another Asian 'brown' person within their community. Our ethnic or religious differences didn't affect how I was treated by or how I treated the participants. The strongest example I can give is being offered a hot meal and shelter from the rain by a Muslim family. The conflict between Sikh and Muslim groups in India and Pakistan is well documented, and there have also been reports of clashes between these two groups in different parts of England (Rowe, 1997), but these are extreme examples of racial gang wars, which are not the norm in daily life. This is summed up by Dr. Athar Hussain of the Asia Unit at the London School of Economics who stated that the dispute between the groups was a local issue as opposed to being based on religious differences: "Something on this large scale is fairly new. The Sikhs and Muslims both tend to come from the Punjab so the culture is quite similar: they eat the same food and speak the same language...they usually get on very well in Britain and that suggests the roots of this dispute have more to do with rival gangs than religion...religion only becomes a factor when there is a conflict between the two groups. If there is no dispute then religion is not an issue" (Rowe, 1997). I thoroughly agree with this statement; whilst researching in the study locations, religion wasn't an issue that affected my access into the community because there was no underlying conflict. The Muslim family didn't ask my religion or ethnicity before they let

me in and I didn't refuse on the grounds of our differing religious beliefs, in fact I trusted them and felt safe because they were South Asian and I saw them as just being 'brown' too!

I think this reveals my definition of community - I felt comfortable talking to South Asian migrants because we may differ in our religious beliefs, but we come from the same part of the world, and thus we share many aspects of our identities. In many cases we could speak the same language, we watched the same ethnic TV channels, wore the same traditional dress and understood cultural beliefs, norms and restrictions which were seen to be similar across different South Asian ethnic groups. I felt that we both recognised this and this led to greater rapport and discussion about these issues not only with me and the participant but also with my mum and sister, thus during the interviews this created a more open and comfortable environment for us to discuss the research. This highlights how lived ethnicities may not correspond to state defined categories of ethnicity and how this was beneficial in accessing the South Asian community.

Thus researching with a family member and especially a woman to create a female research group was invaluable in terms of providing an entry point into the community. I am confident that had I researched in the area alone and only visited the area once as opposed to making myself familiar and visible to the communities for several weeks at a time with my sister, then it would have been more difficult to engage with residents and recruit participants for the research.

#### **4.3.3 Statistical data analysis: Chi square**

In order to analyse the data from the questionnaire surveys, each of the questions and the multiple choice answers were inputted into the 'IBM SPSS Statistics' package. This involved the multiple choice answers being coded by allocating a number to each answer (e.g. Yes=1, No=2). The data from each questionnaire was subsequently entered into the statistics package in numerical form. This created a database of results from the questionnaire surveys for both Perry Barr and Ravensthorpe from which the number of migrants and non migrants, migrant generations and ethnic diversity of participants was calculated.

It was decided that a cross tabulation would be the most appropriate method for analysing statistical relationships within the data. This involved a table being created to explore if there was a relationship between two variables. The rows of the cross table would represent the values of one variable (independent), while the columns would represent the values of a second variable (dependant). In each cell of the table, the number of cases that have a given pair of values on the two variables is presented.



The cross tabulations were conducted systematically. Each of the questions in the questionnaire was categorised under a specific theme. This included ‘ethnicity’, ‘generations’, ‘embeddedness in community’, ‘perceptions of risk’, ‘past experience’ and ‘triggers for action’.

The coded answers to the questions in each of these themes were seen as the dependant variables and were cross tabulated separately against 6 independent variables. These included: (1) migrants and non migrants in areas, (2) Location (Perry Barr and Ravensthorpe), (3) migrants and non migrants by each location, (4) first and second generation migrants in both locations, (5) first generation migrants in both locations and (6) first and second generation migrants in each location.

Each of the cross tabulations was tested for significance using a chi square test. The chi square test may be seen as a test of independence and assesses whether paired observations of two variables are independent of each other. It is applied to sets of categorical data and evaluates how likely it is that any observed differences between the two sets were due to chance. Thus the chi square test was conducted to determine whether there was a significant difference between the data from the two variables in the cross tab. The data was seen to be significant if the asymptotic ‘P’ value was less than 0.05, indicating a 95% confidence level.

The limitation of the chi square tests is that the greater the expected frequencies, the better the approximation. Thus when the frequency of the variables is too low, the ‘P’ value of the chi square statistics can be misleading (Gray & Kinnear, 2012). Therefore for some questions where frequency of variables was low for different generations in each location, the data could only be compared at migrant, not generation level. This was not an issue as the frequency of responses for certain questions were low in general based on the specificity of the question in relation to flooding. Thus this did not have a large impact on the results as they could still be compared against the other 4 dependant variables.

Through cross tabulating the questions against each variable, this ensured that the dataset was thoroughly analysed. The cross tabulations indicating significant relationships between variables were highlighted and explored further within the qualitative research to understand why these trends may have been occurring.

#### **4.3.4 Identification of migrant groups**

The data analysis indicated that the questionnaire surveys were successful as part of the community study in terms of locating migrant groups and more importantly recruiting them for the main qualitative research. The results indicated that in Perry Barr of the 508 properties door knocked in the study area, 111 questionnaires (22%) were completed and in Ravensthorpe of 558 properties, 142 questionnaires (25%) were completed. It is recognised

that the rate of response was low and the issues raised by this method are discussed in Section 4.3.5. The issues encountered did lead to key learning outcomes for the researcher. It is important to understand that despite the low response to the questionnaire surveys, they were considered to be successful because they created a large enough dataset to conduct statistical analysis and attained the relevant data to identify issues to be explored in the qualitative research. They were also seen to be a success because they identified migrant households in the community and created a large enough sample from which participants for the qualitative research could be recruited from.

The study locations were chosen based on census data and local knowledge indicating the diverse migrant groups in the area. In reality when the questionnaire surveys were conducted, there were different ethnic groups than expected due to a change in the population makeup over the 10+ years from census data to door to door data collection (Perry Barr, Table 4.0), (Ravensthorpe, Table 4.01). This relates to the limitations of the census data and may also include low response rates amongst migrant groups in the 2001 census survey (Section 3.2.5). The research findings indicate the importance of conducting community level data collection which can differ from ward level census data (Section 3.5.1).

There was greater ethnic diversity in both areas than expected, and this was beneficial as more migrant groups could be spoken to, however, the number of individuals from each ethnic minority migrant group was low. Pakistani migrants represented the highest proportion of migrants who completed the questionnaire survey in both study locations.

Expected ethnic groups in flood risk areas of Perry Barr study site (% of sample) Total 1857 people in 6 streets		Perry Barr, Ethnic groups identified (% of sample) Total 111 households			
White	53%	Pakistani	31%	Afro-Caribbean	1%
Pakistani	15%	White British	21%	Armenian	1%
Caribbean	10%	Caribbean	10%	Asian-White	1%
Indian	5%	English	8%	Black British	1%
Other mixed	5%	African	7%	Black Mixed	1%
Bangladeshi	4%	Bangladeshi	4%	Georgian	1%
Irish	3%	Indian	3%	Iranian	1%
Mixed Caribbean	3%	Irish	3%	Kashmiri	1%
African	1%	Polish	2%	Scottish	1%
Chinese	1%	Afghani	1%	Sri Lankan	1%

Table 4.0 Expected ethnic diversity in flood risk area of Perry Barr, Birmingham (Census, 2001) (Black) in comparison with observed ethnic diversity within the 6 flooded streets in Perry Barr based on questionnaire surveys (Blue).

Expected ethnic groups in flood risk areas of Ravensthorpe (% of sample) Total 1837 people in flood prone area (approx)		Ravensthorpe Ethnic groups identified (% of sample) Total 142 households	
White	46%	Pakistani	72%
Pakistani	45%	White British	21%
Indian	3%	English	13%
Other Asian	2%	Indian	8%
Black British	1%	Hungarian	2%
Black Caribbean	1%	African	1%
Irish	1%	Czech	1%
White other	1 %	Romanian	1%
		Vietnamese	1%

Table 4.01 Expected ethnic diversity in flood risk area of Ravensthorpe, Dewsbury (Census, 2001) (Black) in comparison with observed ethnic diversity within the flood prone area in Ravensthorpe based on questionnaire surveys (Blue).

In terms of the low number of individuals from different ethnic minority migrant groups, the quantitative results still focused on migrant groups in general. The sample size from both locations was large enough for statistical analysis, and when the datasets from both study locations were combined, this created a large enough sample to allow statistical analysis of results between migrants and non migrants and migrant generations. The data was not representative of ethnic diversity but was a representative sample of migrants and non migrants. Therefore, the data relating to these two groups may be generalisable beyond the study sites.

If future research was conducted aiming to locate diverse migrant groups, the initial study locations would have to indicate larger populations of diverse migrant groups in order to increase the chances of ethnic diversity at community level. The improvements to the ONS migrant mapping process would facilitate this.

It must also be noted that of the 111 respondents in Perry Barr, 64% (71/111) were female and 36% (40/111) were male. In Ravensthorpe, of the 142 respondents 69% (98/142) were female and 31% (44/142) were male. The greater response amongst females in each of the study locations may be as a result of having two women door knocking and conducting the questionnaire surveys. They may have felt more comfortable opening the door to women and participating in the research, and amongst South Asian women it may have been difficult and frowned upon for them to engage with a male researcher due to cultural and social restrictions. Additionally, seeing two unfamiliar women at the door may have discouraged men from answering the door, possibly due to cultural reasons, but in many cases it was seen that where men saw the researcher and her sister at the door, they encouraged a female member of the household to answer the door. This may be because two women at the door may give the impression that they are looking to speak to the women in the household.

#### **4.3.5 Reflection and critical evaluation: questionnaire surveys**

It is acknowledged that there is potential for bias at all stages of the research process. The researcher was actively involved in the research process and this has been discussed throughout this chapter. In order to manage bias, reflexivity is important and is discussed in this section in the first person.

Conducting questionnaire surveys with my sister may be seen as an unorthodox method of conducting research but in this study this approach was advantageous. In being honest about our relationship, this allowed us to connect with the residents and engage with the community. This positive response was facilitated by us being a female family unit as this often allowed us access into the resident's family unit, allowing us to create a rapport with residents and encourage their participation in the research.

Additionally, as we presented ourselves as students, siblings, a family unit, this was beneficial because we gave the impression that we were approachable in terms of not being part of a government institution or a faceless company; our approach was open; 'this is who we are and this is what we are doing' and therefore this allowed residents to relate to us as being 'just like them'.

In terms of power relationships we were most 'visible' when recruiting for the research through the door to door knocking, and in some ways may have been seen to be the 'powerless' student siblings relying on residents to 'help' them with the research. Residents stated that seeing us door knocking daily evoked their sympathy and this led to them completing the questionnaire. The 'powerlessness' therefore prompted help from residents who unconsciously may have noted their role of power in the situation (Das, 2010:18).

Despite the strengths of researching with a family member, there are also biases that must be considered. We were allowed access into households because we emphasised our student status and relationship and because of our resemblance as siblings. Yet on the other hand there were also residents who did not want to open their doors or talk to us because they may not have seen us to be in an official capacity, despite me highlighting that the research was partly funded by the Environment Agency. Instead of our family resemblance, smart-casual appearance and informal engagement approach being a positive it may have given the impression that we were not conducting research on anything valuable and thus some residents did not want to 'waste their time' if we were not there in an authoritative official capacity.

Furthermore, the results of the research revealed that there were a larger proportion of female respondents to the questionnaire survey than male respondents in both study locations. This may be a consequence of having a female research team, which may have

encouraged women to open their doors and talk to us and men to avoid opening their doors to us. Thus in conducting the research in this way, it is recognised that we as a female family unit influenced the research sample.

However, this research and the research approach was exploratory, and it has to be considered that conducting the research as a female family unit allowed me access to a particular group of women who may not have otherwise been able to partake in research. Due to the social constraints and gender norms related to patriarchal control in many Asian households, the opportunity to talk to women who were constrained by these norms may not have been afforded to a male researcher. Instead as a female family unit we were given permission to talk to these women by the male head of the household.

Therefore, this research approach and the associated bias in the research sample was extremely advantageous because it allowed me to access and research amongst an ‘overprotected’ group. This access to women in the household continued through the research and was important as ‘gendered interviewing’ (Fontana & Frey, 2005) revealed wider issues that were relevant in the context of this research. This subsequently influenced the direction of the research in relation to gender, as this was not originally the focus of the study. This is discussed in further detail in Section 4.4 and 4.5.

The reflexivity in relation to researching with a family member has been discussed, but there must also be an evaluation of the research method itself. The questionnaire surveys were used to locate migrant groups. One of the main issues with this approach was that streets in the study locations were visited several times a day over several days. Despite the effort and determination to recruit as many participants as possible, many residents deliberately did not open their doors. This was despite the female family unit research approach and the posted leaflets informing them of the research. Additionally, although I could speak Punjabi, Hindi and Urdu, some migrant groups could not be accessed because certain languages were not spoken. This included hostile Hungarian and Romanian residents who were opposed to speaking with the researcher even through their English speaking children.

If the exercise was repeated it would be beneficial to door knock with a respected member of the community, such as a flood warden who would be more aware of where translators may be required. This may encourage residents to open their doors and participate in the research. It is also important to understand the wider issues in the area, such as burglaries and the effect this had on residents opening their doors. It may be practical to not only make local community police officers aware of the research, as was done in this study, but also to enquire about the current area specific issues that may impact data collection.

Another issue was that when accessing non English speakers, the questionnaire had to be translated. A questionnaire written in English does not translate directly into any other language. It has to be phrased differently in the spoken language. There are words and phrases that do not translate and have to be explained, which may lead to different understanding amongst participants. These phrases as included in the questionnaire included 'climate change' and 'UK economy'. Thus when they were translated, these questions had to be phrased carefully to ensure they were understood correctly. The questionnaire had been piloted, and this was beneficial for organising the structure of the document and increasing confidence in conducting the survey. However, in both pilot areas at no point did the questionnaire need to be translated. Thus an important lesson learnt was that prior to the fieldwork research, research questions must be developed to ensure they translate into the original question being asked. There is also a need to pilot in a similar community to where the research is to be conducted to address translation of questions prior to the research.

The questionnaire survey used as a tool to locate migrant households and recruit participants for the research was a success and if the research was repeated this approach would be the most suitable to access and engage with the community. Nevertheless, it must be recognised that this method was not easy and despite every effort made as part of a female family unit to become familiar and visible in the area to increase trust and cooperation, residents may still not participate. There will always be issues of mistrust or fear amongst residents and the bottom line is that they just may not be interested. If door knocking is the most suitable research method, then perseverance is key.

#### **4.4 One to one interviews**

This section will discuss the sampling strategy used to conduct the one to one interviews as well as exploring the strengths of having a family member accompany the researcher when undertaking the interviews. This section will also provide an overview of the participant characteristics. It will discuss the issues related to the transcription and translation of interview recordings and explain the process of data analysis, which involved a constructivist grounded theory approach. This section will also provide a reflection on having a female family unit research approach to the one to one interviews as well as critically evaluating the interviews as a research method within this study. Key informant interviews were also conducted after the one to one interviews and this is explained further within this section.

##### **4.4.1 Sampling strategy**

The residents who participated in the questionnaire survey were asked if they were willing to take part in the qualitative interviews. Engaging and creating familiarity with the community

and maintaining those links over several visits to the area facilitated participation from the migrant communities. Individuals were contacted by telephone and as they remembered the researcher and her sister they agreed to participate in the next stage of research. Thus the foundations that were laid in the first stage of research were beneficial throughout the research process in accessing and engaging with the community and individuals.

#### **4.4.2 A female family unit**

The following section is written in the first person. The participants in the one to one interviews included men and women. In some cases, it was found that permission had to be taken from the male head of the household to speak to some women who were constrained by gender and social norms. As my sister and I had previously been seen to be a trustworthy female family unit, the male head of the household gave his consent for the women in his family to speak to us. This allowed me a greater opportunity to talk to these women in depth, whereas previously I had just conducted a questionnaire survey with them.

The interviews were successful in terms of the collection of rich data. This was because of the informal relationship that had been created between my sister and I and the participants when conducting the questionnaire survey, which resulted in them feeling comfortable during the one to one interviews. This familiarity was beneficial because it encouraged participants to talk openly and discuss personal issues with us that they may not have if this had been our initial contact with them. Additionally as we were a family unit entering another family unit, this allowed my sister and I to share stories or aspects of our identity that the participant could relate to. This interaction between my sister and I put the participant at ease because they could connect with us to some extent and this meant they were willing to share their experiences with us as we had with them. My sister being present created an informal setting where the participant felt more relaxed about speaking with us, and her presence was also a support for me as I relied on her to put the participant at ease prior to the interview. This involved talking about any manner of issues such as the weather, traffic, what they had watched on television the night before or commenting on the decor of the property. This allowed us to ease the participant into the interview and encouraged them to talk to us frankly and honestly when I conducted the actual interview.

Furthermore, there were some questionnaire surveys that I had conducted in Punjabi or Urdu during the first stage of research. However, I was apprehensive about conducting an entire interview in another language where I may have needed to concentrate on translating the question, and this may have diverted my focus from what the participant was actually saying. This anxiety related to the questionnaire surveys where some words and phrases had to be translated 'on the spot' and under pressure it was difficult to explain what certain

phrases meant. This may have been due to gaps in my knowledge relating to words that are not used in my daily Punjabi vocabulary.

Thus I decided I needed a translator to accompany me to the one to one interviews and support me where I felt my spoken language skills were not as strong as they could have been. This person would translate the questions I was asking in English, allowing me the time to focus on the participant and their response without being concerned about not being able to phrase my next question. It has been mentioned that the translator I used was my mum, firstly because she accompanied me into the field for safety reasons and secondly because she is more fluent than I am in several languages.

The advantages of being accompanied by my sister into the field also extended to the female family unit of me and my mum. When conducting the one to one interviews, I was open and honest with the participants and said that my Mum had accompanied me into the field both for safety reasons and as a translator. This encouraged the participants who were being interviewed (those within the South Asian community who did not speak English) to trust and talk openly with us because they approved of the respect that I had for my mum. They also appreciated that I had brought her with me to conduct fieldwork in a society where children may not be perceived to have much respect for their parents anymore.

Additionally, in bringing my mum to meet the participants, and in hearing her talk about how she was helping her daughter, this increased their confidence that I was a student trying to conduct research and in 'roping' my family in, and being honest about who they were, I was showing that I was genuine and not trying to deceive them in any way. This encouraged their cooperation and participation in the one to one interviews; it appeared that because they saw that the research was endorsed by my mum, an older woman, it validated it for them. They took the research seriously and gave me respect by answering the questions in detail and with careful thought. This may be related to the cultural belief in many South Asian communities relating to respect for elders, and the greater bargaining position and assertiveness that an older woman may have compared to a younger woman (Agarwal, 1997). Thus an older woman accompanying me may have encouraged a more positive response amongst participants, highlighting how gender intersects with age.

There were several interviews that were conducted in Punjabi. I had discussed the interview schedule with my mum prior to the interviews and we decided how each question would need to be phrased to ensure that the original question being asked was not lost in translation, and that there was consistency in how the questions were phrased across interviews. The interview was then conducted where I would speak to the participant in Punjabi and ask the questions that I needed to. In some cases where I could not understand what the participant had said due to gaps in my vocabulary, I relied on my mum to translate



the word into English for me. Similarly, there were instances where I could not appropriately phrase the question I wanted to ask the participant in Punjabi, which may have been as a consequence of the interview diverting from the schedule. In this case I again turned to my mum to translate the question from English to Punjabi for the participant. Thus the translator was actually seen to have a supportive role, and facilitated the flow in the conversation where difficulties in communication arose.

It must also be noted that being accompanied by my mum when conducting the one to one interviews was advantageous as some older participants, both men and women, were seen to talk more openly when they were talking to someone their own age. They were often able to go into further depth and discuss wider issues with my mum which they may not have felt comfortable doing so if I was interviewing them alone because I was younger than them. They also made sure they spoke to her or made eye contact with her when speaking to me as a sign of respect to indicate that they were not ignoring her as an older person in the room. This may be seen as further evidence of how gender is not homogenous and intersects with age, influencing the communication between older and younger individuals.

My mum and I spoke to the participants before I began the interview about issues in general which put them at ease, and thus they were more forthright and open when the interview began. This approach can be related back to the steps taken by Alam (2014) who encouraged his wife to speak to the parents within the Bangladeshi households he was researching in as this increased their trust and led to greater rapport with the individuals.

#### **4.4.3 Participant characteristics**

Interviews were conducted with over 25 participants from each area from the original 111 participants spoken to in Perry Barr and 142 participants in Ravensthorpe. There was a mixture of first and second generation migrants as well as male and female participants (Table 4.02). However, there were a larger percentage of female participants in both Perry Barr (73%) and Ravensthorpe (78%). This may be related to the female family unit research approach which may partly explain why more women were involved in the questionnaire survey and subsequently were involved in the one to one interviews. As a perceived 'team of women' the researcher and her sister/mum may have made a greater impression on the women in the community, encouraging their involvement in the research as opposed to the men in the community.

The sample also included individuals with and without flood experience both in England and abroad. The majority of participants were of Pakistani (Mirpuri) and Indian origin and these participants combined with the Kashmiri and Bangladeshi participants indicted a focus on South Asian migrants. The greater response from the South Asian community may partly be

because the researcher is British Asian and this is evident from her appearance. Thus participants from the South Asian community may have felt more comfortable talking to her and another British Asian female than members of other ethnic minority migrant groups may have. This includes individuals of Armenian, Vietnamese, Hungarian, Czech, and Romanian origin who participated in the original questionnaire surveys. A list of interviewees and their characteristics is included in Appendix F.

It was noted that the saturation point was reached towards the end of the interviews as no new themes were emerging. Thus an appropriate number of interviews were conducted (53) to provide rich data and enable meaningful comparisons to be made in relation to the research objectives (Mason, 2002).

It is recognised that the response rate of participants for the interviews was low based on the initial quantitative sample and this methodology will be critically reflected in Section 4.4.9. Additionally, there were no interviews conducted within non migrants in Ravensthorpe as there were no willing participants. As the data from both locations was analysed as one dataset, this was not an issue within the research.

<b>Categories</b>	<b>Perry Barr Participants in one to one interviews (% of sample) Total 26</b>	<b>Ravensthorpe Participants in one to one interviews (% of sample) Total 27</b>
<b>Gender</b>		
Male	27%	22%
Female	73%	78%
<b>Generation</b>		
‘First’ generation	54%	44%
‘Second’ generation	23%	56%
Non migrants	23%	0%
<b>Ethnicity</b>		
Pakistani	35%	81%
British	22%	0%
Indian	15%	11%
Caribbean	8%	0%
African	0%	4%
Bangladeshi	4%	0%
Ethiopian	4%	0%
Irish	4%	0%
Jamaican	4%	0%
Kashmiri	4%	4%

Table 4.02 Characteristics of participants in one to one interviews

#### 4.4.4 Transcription and translation

The first stage of analysis of the qualitative data involved transcription and in some cases translation of the interviews. Each interview had lasted for approximately one and a half hours. One hour of recorded interview time equates to approximately four hours of

transcription time. Thus the sheer volume of data to be transcribed was overwhelming. It was also recognised that transcription requires a certain skill, and whilst the speed of transcription increases with each interview, the researcher had to contend with the translation of interviews and lack of clarity in recordings.

Thus it was decided that a transcription service would be used for the recordings with the most clarity, of which there were 15. The researcher would transcribe the remaining 38 interviews of which 11 would need translation. In order to retain the ‘feel’ of the interview, verbatim transcription was used by both the transcription service and the researcher to maintain quality in transcription. This involved the interview being transcribed word for word, including repetition, the use of fillers such as umms and aahs and informal language use. Incomplete sentences were not corrected, and events that interrupted the conversation were noted. Non verbal elements of the conversation were also recorded.

It was recognised that transcription is an important part of the analysis process; “there is real value in doing your own transcribing, building intimate knowledge of your data” (Bazeley, 2013:73). The process allows familiarity, immersion and ‘closeness’ to the data to facilitate analysis. Therefore to ensure that the researcher was immersed in all the data, the transcripts from the transcription service were checked against the original recordings. This allowed the researcher to ensure reliability by checking for any mistakes, fill in any gaps where there were missing phrases or words which the transcription service could not identify due to clarity issues and subsequently ensure quality in the transcripts.

The researcher translated interviews from Punjabi to English. Translation of interviews is seen as a “boundary crossing between two cultures” (Bazeley, 2013:77). In many cases meaning could be translated directly to English without much difficulty. Yet as participants spoke in detail about their experience, there was use of phrases and cultural references that were more difficult to literally translate. This is explored further by understanding that qualitative research aims to study meaning in subjective experience, yet the relation between subjective experience and language is a two way process; “language is used to express meaning, but the other way round, language influences how meaning is constructed” (Nes et al. 2010: 313). Therefore, phrases metaphors and narratives are used to give words to experiences. These are often seen to be language specific and thus in this research although the researcher could correctly interpret their meaning, there was a risk of them being ‘lost in translation’. This was important because qualitative research highlights the importance of giving a ‘voice’ to people (Denzin & Lincoln, 2000). Therefore in these cases the researcher decided to use ‘meaning based translation’ to preserve meaning, the quality of the dialogue and the validity of the research.

#### **4.4.5 Coding and theory development**

The analysis of the interview data was achieved through coding, which is the process of “organising material into segments of text before bringing meaning to information” (Creswell, 2009:186). It is a process of data retention; “the goal is to learn from the data, to keep revisiting data extracts until you see and understand patterns and explanations” (Richards, 2009:94). Therefore coding represents the “operations by which data are broken down, conceptualised, and put back together in new ways. It is the central process by which theories are built from data” (Flick, 2009:307).

Coding was facilitated by the use of the NVIVO computer software. There are debates about the use of computers in the analysis process, as it is argued that it may lead to distancing between the research and the researcher. The NVIVO package was used in this research because the data was more manageable than using pen and paper, and allowed storage of memos and recording of the analytical process.

The transcription process involved repeated listening to the interview recordings and reading of the interview transcripts. This allowed the researcher to become ‘immersed’ in the data and gain a general sense of the information and reflect on the overall themes.

This led to the first stage of the coding process; ‘open coding’ (Strauss and Corbin, 1990). This involved the researcher creating preliminary ‘nodes’ or categories for recurrent themes that were identified from the data. This included experiences, attitudes, behaviours and emotions that the researcher thought were important. The interview framework guided the creation of initial nodes, but then the researcher focused on the data to guide the emergence of further nodes. Segments of text from the interview were assigned to the nodes and thus this process effectively “put the data where it belonged” (Richards, 2009:100). As the coding continued, further child nodes were created off the parent nodes and this was seen as the first step to interpreting the data.

The second stage of coding was ‘axial coding’ which is a process where the data that was separated is put back together, but in a new way by the researcher making connections between categories. This led to the emergence of new unexpected themes and concepts. These themes were explored further to determine whether they could be connected with existing literature. The literature indicated that these themes were developed within existing research and played a role within different concepts but had not been related to each other as causal relationships within the framework of this research. There was subsequent recoding based on the knowledge gained from the literature search. There was an aim to use themes consistently in order to ensure reliability in the approach to analysis.

The process of 'selective coding' then involved development of theory through selecting the core category, which is the central issue of focus around which the other categories are integrated and is composed of concepts. The core category was systematically related to other categories and this created the 'storyline' (Strauss & Corbin, 1990). Validity of findings was ensured as narratives from different informants were used to support the interpretations.

Thus it can be seen that emerging themes from the coding of the data guided the exploration of existing theories within literature. This led to further analysis and recoding of data to create categories and ultimately theory; "a set of well developed categories...that are systematically related through statements of relationship to form a theoretical framework that explains some relevant social...or other phenomenon" (Strauss & Corbin, 1998:22). Thus theory was developed from the data, indicating a grounded theory approach.

#### **4.4.6 A grounded theory approach**

Grounded theory was developed by Glaser & Strauss (1967) to counter the dominant view that quantitative studies provide the only form of systematic social scientific inquiry. They provided written guidelines for systematic qualitative data analysis with explicit analytic procedures. Grounded theory has diversified since its initial development, with the most important variations between the founders of grounded theory. Glaser is seen to have remained faithful to classic grounded theory whilst Strauss and Corbin (1990) produced a reformulation of the classic model.

Grounded theory involves the researcher developing analytic interpretations of their data to focus further data collection. "Grounded theory methods consist of systematic inductive guidelines for collecting and analysing data to build middle range theoretical frameworks that explain the collected data" (Charmaz, 2000:509). The central features of grounded theory are that theory is developed out of data and this occurs through an iterative approach, where data collection and analysis proceed in tandem and refer back to each other.

Although the analysis aspect of this research is seen to include coding, which is seen as the central process of grounded theory, and importantly theory development from the data, there were other requirements of grounded theory that were not fulfilled; selecting areas of inquiry and avoiding theoretical preconceptions from the literature and constant dialogue between data collection and analysis with emergent data being coded as it is collected. Thus only aspects of grounded theory were applied in this research.

#### **4.4.7 Constructivist grounded theory**

Additionally, it has been argued that grounded theory related to Glaser, Strauss and Corbin is objectivist because it aims to cover a reality external to social actors. Glaser (1978)

presents an assumption where there is an objective, external reality, and a neutral observer who discovers data. Strauss and Corbin's (1998) "stance assumes an objective external reality and aims towards unbiased data collection" (Charmaz, 2000:510).

In this research social constructivism has been a key viewpoint; it "assumes the relativism of multiple social realities, recognises the mutual creation of knowledge by the viewer and the viewed and aims towards interpretive understanding of subjects' meanings" (Charmaz, 2005:510). Therefore, the researcher is not seen to be an objective and neutral observer.

Thus in this research a constructivist approach to grounded theory may be more appropriate; "a constructivist grounded theory assumes that people create and maintain meaningful worlds through dialectical processes of conferring meaning on their realities and acting within them...thus social reality does not exist independent of human action" (Charmaz, 2000:521). This is in contrast to early grounded theory texts which imply that "categories and concepts inhere within the data, awaiting the researchers discovery" (Charmaz, 2000:522) and assume that data can be collected without bias. Instead a constructivist approach to grounded theory "recognises that the categories, concepts and theoretical level of an analysis emerge from the researchers interactions with the field and questions about the data" (Charmaz, 2000:522). The grounded theorist's analysis tells a story, but the story is composed by the researcher.

#### **4.4.8 Key informant interviews**

The researcher returned to the study locations to conduct four additional one to one interviews with key informants. The key informants included the Environment Agency 'engagement officer' for Ravensthorpe, the local ward councillors for both Ravensthorpe and Perry Barr, and the flood warden for Perry Barr. There was a need for these additional interviews due to the findings of the interviews with participants, which had highlighted that there were misconceptions amongst residents about the methods used to issue flood warnings in the study area. This was seen to be important as it may have influenced how they responded to flood risk. Residents thought leaflets issued annually about the flood risk in the area were on behalf of the Environment Agency and were flood warnings.

The researcher felt it was important to address these developments in the research and return to the areas to speak with three residents who had the misconceptions and clarify why they thought the leaflets were warnings. The researcher talked to key informants to understand whether leaflets were actually issued regularly and by which agency, especially as leaflets were not part of the FWD service. The key informant interviews were extremely useful in clarifying the findings of the research and were important as they provided the context to understand the views and beliefs of the participants in the study locations.

#### **4.4.9 Reflection and critical evaluation: interviews**

This section will prove a reflection on the role of the researcher and conducting the one to one interviews with a family member, as well as a critical evaluation of the one to one interviews, and is written in the first person.

This research was conducted over several visits to each community from July 2011 to May 2013. The engagement approach involved making my sister and I visible and familiar to encourage trust and response from participants. The interaction and rapport with individuals developed gradually over the recruitment period and in creating this relationship with individuals in the community, this made recruitment for the interviews easier.

This was not ‘immersion’ in the strictest ethnographic sense; I had not spent long periods living in the communities and was not considered an ‘insider’, and yet was not considered an ‘outsider’ either. The engagement process had increased familiarity with participants and this contributed to the success of the interviews, resulting in rich, informative data; participants felt comfortable enough to discuss their past flood experiences and family relationships, the issues behind their attitudes to elders and their ethnic community.

However, what must also be considered is the impact of the positionality of the researcher on the interviewing process; the “specific positions of the researcher interacted to produce insider-outsider contexts as other researchers who have conducted research within a minority context and share ethnicity with participants have also pointed out” (Das, 2010: 17).

As I am a female second generation British Asian, of Indian origin, the research amongst the South Asian community may be seen to some extent as ‘insider’ research as it involved social interviews between researcher and participants who share the same cultural, linguist, ethnic or religious heritage (Ganga & Scott, 2006). During data collection, a particular ethnic background can be very helpful. Such researchers “can have privileged relations within immigrant groups....and advantages arise from familiarity with the languages” (Ganga & Scott, 2006:2).

This was evident in my research as it has been discussed that I was accepted into the community as another ‘brown’ person. When speaking with participants from the South Asian community, they asked about my background and where my family originated from. Disclosure of this information and discussion of similar cultural and religious experiences, familiarity with traditional concepts such as ‘izzat’ or honour as well as speaking a shared language, increased rapport, hospitality and acceptance with these participants. This was because they felt comfortable especially as there was a reduction in the “hierarchical relationship between the researcher and the participant” (Das, 2010: 19). This led to greater understanding of the nuances of participant’s experiences and subsequently greater depth to

the interviews. During this conversation, I was supported by my sister in sharing our family background, and this increased the rapport that participants had with us, and further influenced our 'insider' status, encouraging the flow of conversation. This provides further evidence of 'lived' ethnicities in terms of being able to relate to different South Asian migrants based on our shared South Asian background.

My feeling of power based on this 'connection' with participants was further enhanced as my familiarity with the culture and languages spoken meant that I could correctly analyse and interpret words or phrases that could not appropriately be translated into English.

I recognised that I could not build the same rapport with migrants who were not from South Asian countries, and realised that I had to relate to them in some other way to ensure that the interviews were not limited and my research would not be biased; "the insider status is constantly negotiated and while there are aspects of race or ethnicity that can be a unifying factor, issues of gender, sexuality, class and power are constantly at work shaping the power discourse in the researcher- researched relationship" (Das, 2010:17).

Therefore, to overcome the issue of 'powerlessness' amongst other migrant groups, different elements of my identity were shared depending on the person I was interviewing. The shared experiences ranged from social issues to educational background. In terms of non migrants, I am British and thus discussion of experiences was as wide ranging as with the South Asian participants. It must also be acknowledged that I was able to build better rapport and felt more comfortable with female participants than male participants. This may have been due to the nuisance calls received from a male resident when trying to recruit participants, which increased my vulnerability and affected my feelings of 'power' whilst door knocking. It may also be because of my upbringing in a female dominated household or that as a woman I could relate better to the women in the study than the men.

My ethnic and British identity, along with that of my sister had helped to create a point of understanding with participants, and led the way to exploring the key themes within the research.

Although conducting the one to one interviews with my sister led to rich informative data, it has to be considered that due to the intersection between gender and age, there was a different interviewer-interviewee relationship when I conducted the one to one interviews with my mum as a translator, which may have led to bias. In the interviews with my sister, I was in control, as is the norm in our daily life; I am the older sister and I almost always take charge, and this supports the social norms relating to age and assertiveness (Agarwal, 1997). The same principle applied whilst conducting the interviews; I asked the questions and engaged with the participant and my sister was there in a supportive role, often adding her



comments when directly spoken to by the participant but otherwise not influencing their views during the interview.

Yet in the one to one interviews, I noted that many South Asian participants, both male and female and those that may have been older than and younger than my mum responded better to her as an older woman than to me as a younger woman. This may have been due to the cultural and social norms about respecting older people, and her greater bargaining position, which resulted in my mum receiving more respect than I would. Thus as an older woman they felt it was respectful to talk and engage with her than to only respond directly to my questions. That is not to say that I was ignored throughout the conversation, but they made a greater effort to involve her.

Furthermore, as she was an older woman, it appeared that they felt more comfortable talking about issues in general in their mother tongue that she would understand as an Asian woman, daughter, mother and a wife because she had more life experience than I did. In particular issues such as the difficulties related to raising children and encouraging them to speak the mother tongue were discussed in greater depth between my mum and a female participant than may have been explored with me. This may have been because the participant was trying to express her feelings and used my mum to support her argument because she felt that my mum may also have faced these same issues as a migrant woman herself.

In this way my mum facilitated the conversation, and rather than being a source of bias this was actually beneficial for the research because I was able to hear these thoughts and opinions that were being freely expressed because the participant, whether they were older or younger than my mum felt comfortable talking to us and especially because they could speak in their mother tongue. It was interesting because I was still in control in terms of asking the questions I needed to and following, understanding and contributing to the conversation, but I could start the topic and observe how the two older women discussed the issues in depth.

It has to be considered that my mum participated in the conversation and this may have influenced the flow of conversation, but this resulted in the participant feeling comfortable and talking openly about the issues being discussed, and talking more widely about other issues as a result of this interaction, and this resulted in rich data.

The differences between the interviews where I was accompanied by my sister as opposed to my mum may subsequently be seen as a source of bias; if older non-English speaking participants felt more comfortable talking to my mum, then maybe she should have accompanied me to all the interviews. However, I do not think this is the case. I think in all

the interviews every effort was made to engage with the participant; in the interviews with English speaking participants this was achieved by using different aspects of my British and ethnic identity to engage with them on issues that they could relate to.

Furthermore, it has to be considered that where my mum as a first generation migrant and mother was able to engage with participants who may not have been able to speak English about their life experiences and the issues they may have with raising children and maintaining their ethnic and cultural beliefs after migration, my sister and I are also second generation migrants. Thus although we were able to converse with English speaking first generation migrants and discuss issues in depth, we were also able to relate more directly to the second generation migrants we interviewed. As second generation migrant ourselves, we were able to relate to the issues they discussed about listening to parents, about the cultural and religious beliefs that may not be strictly followed with each generation, about the different relationship with parents in comparison to grandparents, and this led to these participants to be more forthright in the interviews.

It must be noted that prior to the interviews I had discussed with both my mum and sister that the casual conversation with participants was to put them at ease. The conversation prior to the interview should not involve issues that were to be discussed in the interview as this may have had the effect of leading the participants in their responses to issues such as cultural norms or gender issues. When these issues were discussed in the interviews we spoke about our understanding of them and how we could relate to them, but were careful not to influence the participants or divert the conversation based on our individual views of these issues.

Thus although researching with two women, one older and one younger, a first and second generation migrant may be seen as a source of bias, in the context of this research it was extremely advantageous and valuable to have a female family unit which allowed me to engage with the different individuals and migrant generations in the research, and overcome to some extent any limitations I may have had as a younger woman talking to older participants, and this resulted in detailed rich data. It was discussed earlier that interviewers are active participants in interactions with respondents, and the interview is a negotiated accomplishment of both interviewers and respondents that are shaped by the contexts in which they take place (Fontana & Frey, 2000). This was evident in this research and I acknowledge my role in the interviewing process as well as the role of my mum and sister. I did not simply conduct an interview and come away with knowledge; as part of the social constructivist stance of this research, it is acknowledged that knowledge and meaning was constructed through interaction with the participants. My background relating to my personal, cultural and historical experiences shaped my interpretations.

The research also revealed that conducting the research as a female family unit may be a further source of bias, as a higher number of women than men were interviewed in both study locations. This may be a result of more women being in the questionnaire survey sample, which created the sample for the one to one interviews. Additionally, it may be because women, more than men felt comfortable talking to two women and may have felt it was socially acceptable for them to do so. Men may not have wanted to take part in an interview with two women due to cultural issues or they may have felt uncomfortable sharing personal opinions with women in relation to 'gendered interviewing' (Fontana & Frey, 2005). The majority of participants were also of South Asian origin and this may have been a result of me being British Asian and being accompanied by another British Asian female which may have encouraged a greater response from the South Asian community than any other ethnic group. The female family unit may therefore have influenced the sample for the one to one interviews, leading to a higher number of South Asian women participating in the research.

Yet it has to be considered that in having a female family unit research team we were able to gain permission from men (who did not see us as a threat) when required in order to talk to the women in their household for the one to one interviews. Thus although researching as a female family unit may have biased my sample, as an exploratory, unorthodox research approach it gave me access to South Asian women who may not have had a voice, and allowed me to engage with them and hear their stories. If this was achieved through having a biased sample, then this may be seen as a positive outcome.

Alam (2014) utilised the relationship with his wife to access Bangladeshi households, and in this research, having a female family unit as a research team provided me with a unique opportunity to access the community and in particular households where women may not have been able to partake in the research had it been conducted by a male researcher due to the enforcement of gender norms and social constraints. Subsequently, in what may be seen as a consequence of gendered interviewing (Fontana & Frey, 2005), these women revealed wider issues relating to gender norms and patriarchal control and when this was understood in the context of this research, this provided an invaluable insight through an intersectional lens focusing on migrants, generation and gender and how they intersect in the flood risk context. The female family unit research approach applied in this research is therefore seen to be unconventional but it did facilitate access into migrant communities and households and allowed research to be conducted amongst an 'overprotected' and thus not easily accessible group.

The reflexivity into researching with family members in the context of the one to one interviews has been discussed, but there must also be an evaluation of the research method

itself. The participants who completed the questionnaire surveys were asked if they were willing to participate in the qualitative research. Contact numbers were taken from residents who agreed. These residents were telephoned approximately eight months later to arrange interviews, but in many cases residents had moved or changed their mobile numbers. I am based in London and the study sites were in the Midlands and Yorkshire. Thus I had to visit residents in person to make appointments. A lesson learnt was to take both mobile and landline contact numbers.

There were a maximum of four interview slots booked per day. This was to allow time for the introduction and to get written, signed permission from participants to audio record the interview sessions. There were numerous cases where the participant was not at home at the appointed time and was not contactable by phone. Hence they had effectively cancelled their interview and wasted a two hour time slot. I then made sure to call all participants the evening before their interview to remind them of the appointment, or give them the opportunity to rearrange if required. This was an effective and essential approach to time management during the interview process. It also provides an insight into the 'power' relations between interviewer and interviewee. I felt in control of the research and the interviews, but ultimately the interviewees decided whether I could achieve this control. Thus I felt powerless when recruiting participants, and therefore the assumed dominant position of the researcher may be questioned. It is subsequently recognised that there is movement of power between the researcher and the participants during the research process (Das, 2010). It also highlights that despite the benefits of the female family unit approach to conducting the research and engaging with the community, this approach did not recruit all participants and there were individuals who simply did not want to take part in the research.

It must also be mentioned that despite attempts to create rapport with all participants there were some individuals who genuinely were not interested in the research and thus answered the questions quickly and without thought in order to complete the interview. In these cases the participants were probed as much as possible but they were limited in their responses and interaction with me.

It has been discussed that there were interviews conducted with non English speakers for which I had prepared for by using a translator in a supportive capacity. Nevertheless, there were issues with certain dialects of Urdu that are not widely spoken. In these cases, both my mum and I could understand the spoken language but could not reply in the specific dialect. Hence a family member from within the household had to be used to communicate with participants, and through understanding the response from the participant, I could ensure that questions were being understood correctly. This was a longer, time consuming process as the family member had not seen the questions before and did not understand why they were

asked. Thus the questions were often translated inaccurately. Hence I had to repeat questions and explain what was being asked to the family member to ensure that they were being translated and interpreted correctly. A lesson learnt is to clarify which language the participant will want to communicate in to prepare a suitable translator beforehand.

The one to one interviews may have had a low response rate, but of the interviews conducted they were seen to be successful as they produced detailed, informative data which could be analysed and explored in depth to address the research aim and objectives.

#### **4.5 The research focus**

This chapter has discussed in detail the attempts to locate and research amongst diverse migrant ethnic minority groups based on the original focus of the research and the requirements of the Environment Agency, and how the eventual research sample was different than expected. The questionnaire surveys indicated that the ethnic diversity in the flood prone communities had changed over time since the 2001 census, and Pakistani migrants represented the largest proportion of respondents in both locations. The female family unit research approach may have also influenced the sample to include more women respondents. This influence continued in the one to one interviews, as the largest migrant group was Pakistani migrants followed by other South Asian migrants possibly due to the ethnicity of the researcher, and there was a majority of female participants. Therefore the research was conducted amongst a cross- section of the South Asian community within the flood prone community in each of the study locations of Perry Barr and Ravensthorpe.

The Pakistani migrants mainly included migrants from Mirpur and included established first generation migrants and recently arrived first generation male and female marriage migrants. There were also older and adolescent second generation migrants included in the sample.

A separate report was written for the Environment Agency in relation to the original research objectives as discussed in Section 1.3. Although the methodology involved the use of quantitative and qualitative data, the quantitative findings were of greater importance to the Environment Agency, and have less of a focus in this thesis; the questionnaire was important to identify migrant groups for the research and inform the qualitative research. The findings discussed in this thesis are based on the qualitative data, with the quantitative data being used rarely to support these findings when required. The key questionnaire data has been included in this thesis in Appendix G.

It has been explained that this research did not initially focus on gender, but concentrated on migrant groups and intergenerational communication. There were more female participants in the research, but that did not suggest a focus on gender. However, there was an indication of gender issues through the interviewing process, when in certain cases it was found to be

difficult to access women directly and instead permission from the male head of the household had to be sought to speak to the women in the family.

Furthermore, I recognised the significance of gender in terms of more women than men being prepared to talk to me as a female British Asian and that may represent the whole relationship of what they think is important in terms of patriarchal control, gender norms and the expected behaviour of women, who they can and cannot speak to and be seen to interact with.

I believe that there was an element of ‘gendered interviewing’, where gender influences knowledge production; “the sex of the interviewer and of the respondent does make a difference, as the interview takes place within the cultural boundaries of a paternalistic social system in which masculine identities are differentiated from feminine ones” (Fontana & Frey, 2005:710). I did not feel that the men I interviewed were restricted in their conversation or were not forthright with me because I am a woman. Instead I felt that because there was an element of a shared South Asian background, they were open to sharing their views and perceptions of the world which extended to discussing gender norms in the home and issues of patriarchal control, which were seen to influence their relationship with others. I may not have been able to connect with them in the same way that a male researcher could have, but they did fully answer my research questions and were cooperative.

I do feel however, that I received a better response from the women I interviewed, and this may have been because I felt more comfortable interviewing women; I could better understand the issues they faced and thus relate to their views better, possibly encouraging them to express the issues that were relevant to them. The literature has suggested that interviewing is a “masculine paradigm, embedded in a masculine culture and stressing masculine traits, while at the same time excluding from the interviewing traits such as sensitivity, emotionality, and others that are culturally viewed as feminine” (Fontana & Frey, 1994:370). However, it has been recognised that in interviewing there is “no intimacy without reciprocity”, leading to a shift towards a closer relationship between interviewer and respondent” (Fontana & Prokos, 2007:63). The interviewer can express feelings and show their ‘human side’. “This provides a greater spectrum of responses and a greater insight into participants” (Fontana & Prokos, 2007:63).

This was evident in my research as I felt that the female participants were comfortable around me and my sister or my mum based on the rapport that we had built over time, with shared stories and anecdotes and this allowed them to divulge information about wider issues than flooding, especially when we spoke about their involvement and integration in their ethnic and wider community. Women spoke in greater detail than the male participants

had about their family and gendered relationships, how they were controlled and restricted in their actions because they were women, how they were perceived by others around them, how they had to follow traditional norms and how they attempted to challenge the restrictions they faced. I believe that the South Asian women I spoke to revealed these issues to me because I am a South Asian woman and they may have felt that I would understand these issues, and I did. I understood their concerns, and how they attempted to overcome the restrictions they faced because these are issues that are prevalent in the South Asian community and I have grown up being aware of them and how they guide the behaviour of an Asian woman, including me, and yet they allow men to have greater freedom and choice.

Although I recognised these gender issues during the interviews, it was only during the process of qualitative data analysis that I realised gender was an important issue in the context of the research. Coding of the data for analysis required me to develop the text into themes. This was based on my interpretations and my decision on what I thought was important. Every effort was made to remain neutral and identify the themes based on the textual data. Yet, ultimately, “a researcher's background and position will affect what they choose to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate, and the framing and communication of conclusions” (Malterud, 2001:483).

I realised that both the male and female participants spoke about patriarchal control and gender norms, and what was strongly emerging as a theme was the differences between how first and second generation migrant women as well as older and adolescent women could respond to this control and the extent to which they had a voice. I could understand these findings and relate to them as an Asian woman and that may be why I found them to be so important. Furthermore, I realised that these issues were relevant in the context of the research; they told me about notions of risk and the communication around and response to flood risk. The research findings related to South Asian migrants and intergenerational communication, but the gendered norms that were revealed provided a greater insight into intergenerational communication patterns and how women could and could not respond to flood risk based on the restrictions they faced. Thus risk was inadvertently explored through an intersectional lens focusing on South Asian migrants, generations and gender, and this revealed the complexity in how flood risk and knowledge may be constructed and transmitted, which is the focus of this thesis.

As noted previously, the thesis will use the different theories that have been identified as being important in this research to help understand and frame the research findings. It aims to help build a better understanding of the risk perceptions of South Asian migrants and

more specifically, to apply an intersectional lens to highlight how different issues combine to influence how individuals understand flood risk.

#### **4.6 Ethics and Risk**

In terms of ethical issues, written consent was sought from participants before proceeding with the qualitative research, including consent to audio record interview sessions. Participant names were changed and they were not identifiable through their descriptions or characteristics. Data collected was kept in strictest confidence and used for research purposes only, with results made available to participants if requested.

The researcher also explained the academic purpose of the research, flood risk concepts and the role of the participant in the research. The researcher was sensitive and empathetic when questioning participants about their flooding experiences. Information on flood action groups and the FWD service was provided for residents requiring further information.

There were language difficulties amongst migrants who were not able to communicate in English. The researcher was able to communicate in Punjabi, Hindi and Urdu, and always spoke in the language that the participant felt most comfortable communicating in.

Additionally, the majority of Muslim participants could not partake in the research at certain times. The interviews were scheduled to take place after the Holy month of Ramadan because Muslims are prohibited to take part in any external activities during this period. There are also special prayers every Friday throughout the year between Midday to 2pm, where men pray at the Mosques and women pray at home. Thus Muslim participants were unavailable during this period. These religious circumstances were always respected for all participants and interviews were scheduled at more suitable times.

Furthermore, as discussed earlier, in order to respect any cultural views held by the migrant groups, the researcher was accompanied throughout the research by her sister or her mum. A lone British Asian female researcher may not have been culturally appropriate for certain migrant groups, but two females researching in the area would be more acceptable, encouraging cooperation from the community. It was also safer especially whilst conducting the door knocking and interviews. The researcher, her mum and her sister took care to dress appropriately at all times in order not to offend any participants.

In terms of risk, as the researcher was accompanied by her sister or her mum for each research method, this ensured there was no lone working. Mobile phones were carried at all times to ensure that the researcher could make contact in an emergency. The researcher and her sister made sure to dress appropriately for the weather conditions when door knocking. There was no door knocking conducted late in the evening when it was too dark.



There were incidents where residents were hostile when asked if they were willing to partake in the research. In these cases the researcher apologised for disturbing them and moved on to the next property. Participants who were aggravated about the flood damage to their home and who were looking for solutions to the flood risk were calmly reminded about the purpose of the research. They were advised to contact local council or Environment Agency representatives for further information about specific issues with their properties. There were also properties that were highlighted by other residents as being unsafe due to the owners taking part in illegal activities. In these cases, these properties were also avoided.

There were also local issues in the area such as burglaries instigated by people knocking on doors. Hence residents were wary about opening the door whilst the researcher and assistant were door knocking. It has been highlighted that in order to raise awareness of the research and encourage residents to open the doors, leaflets were posted through letterboxes in every property highlighting the door knocking activities (Appendix E).

Additionally, a resident assisted the researcher with the door knocking amongst his neighbours and as they recognised him as a member of the community they opened their door to him, and participated in the research. The resident offered to assist the researcher the following day and took her mobile number. The resident called the researcher several times a day and late into the night, which was inappropriate. Hence the researcher politely declined his offer to assist in any further door knocking and did not include him in the qualitative research, yet the nuisance calls persisted until the mobile number was changed. The incident did not have a major impact on the research, in fact the resident did actually facilitate with accessing the community, but it was not an entirely safe situation as he could contact the researcher and knew she was in the area. This was addressed by continuing to work in pairs, not answering his phone calls and changing the mobile number.

The lesson learnt from the incident was despite having risk assessments, issues can still arise. The researcher made sure not to give personal telephone numbers to anybody whilst researching. During the remainder of the fieldwork, the Flood Hazard Research Centre number at Middlesex University was provided and calls were redirected to the mobile. A copy of the ethics and risk form which was completed and approved before fieldwork was undertaken is included in Appendix H.

## **4.7 Summary**

In summary, the research design for this study involved a ‘dominant - less dominant’ mixed method approach. The combination of research methods within the community study allowed migrants to be located and engagement with the community. There were biases related to researching with a family member which have been explored in detail and

discussed in the wider context of accessing and researching amongst some ‘overprotected’ South Asian women, and how this has led to greater insight into the risk perceptions of South Asian communities in the context of flood risk. There were issues with each research method that had to be overcome and these have been learnt from, not only by the researcher but hopefully with those seeking to engage with migrant communities.

In the interest of credibility and reliability, the philosophical and theoretical stance of the research, the research process and data analysis methods as well as the positionality and reflexivity of the researcher has been discussed and made as transparent as possible. This should provide an understanding of the various elements leading to the findings of the research. The analytical process ensured that there was investigation of all the data from the quantitative and qualitative research methods. The presentation of results will focus mainly on South Asian migrants and especially Pakistani women, providing a small sample of the data from the interviews and questionnaire surveys and focusing more intensively on a few selected participants, but the findings of this research are based on all the data.

Furthermore, the statistical data from the quantitative research may be generalisable beyond the study locations. The findings of the qualitative research provide insight into the processes occurring amongst South Asian migrant groups in these communities. Thus on the basis of this understanding, there is potential for future research, to reinterpret these findings beyond the study locations, looking at more diverse or specific migrant groups, different flood experiences and different types of flooding. The results of this research are discussed in Chapters 5 to 8.

# Chapter 5: “The little flooding here... it’s nothing”

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## 5.1 Introduction

This chapter will discuss how previous experience of flooding in England or abroad affected risk perceptions amongst migrant ethnic minority groups within the study locations. It has been discussed that the ‘Affect’ heuristic theory (Finucane et al. 2000a) will be used to understand the flood risk perceptions of first generation migrants. This will involve discussion of their flood experiences and the related emotional ‘affects’ which are causal factors in risk perception. The emotional aspects of risk perception will then be related to their response to flood risk, and this response will also be understood in the context of the PMT (Grothmann & Reusswig, 2006). The findings are important in order to understand whether the communication of flood experiences across migrant generations may have a negative influence on the flood risk perceptions of second generation migrants and their response to flood risk.

In discussing the results of this research, participant names have been changed. In certain chapters it may be necessary to discuss specific issues in relation to the location of the participant or whether they are a non migrant, first or second generation migrant. Thus participant names will be followed by specific initials detailing this information. Perry Barr and Ravensthorpe will be referred to as PB or RV respectively. This will be followed by FG, SG or NM to indicate a first generation, second generation or non migrant participant.

## 5.2 Migrants and their perceptions of flood risk

The existing literature suggested that “the greatest factor affecting risk perception is the experience of the affected individuals with hazard events” (Burn, 1999:3452). Previous flood experience has been related to the ‘Affect’ heuristic theory and feelings of worry, which have been found to lead to the adoption of protective behaviour (Miceli et al. 2008). The higher the flood risk perception (feelings of worry), the higher the number of protective behaviours adopted (Miceli et al. 2008). Despite flood experiences abroad, risk perceptions and motivation to take notice of flood information amongst ethnic minority groups in England have been seen to be reduced by feelings of comparative safety (Robertson, 2004). Yet it was not known how flood risk perceptions would be affected by flood experience abroad specifically amongst migrant ethnic minority groups, and how this would influence their response to flood risk. This is explored in this chapter.

This section will discuss the pre-existing flood risk perceptions held by first generation migrants in England, and how these were influenced by flood experiences in the study locations. A comparison will be drawn between the impacts of flooding in England where there is a focus on the damage and inconvenience caused and need for renovations, to the impacts in the developing world where there is loss of lives, homes and livelihoods. The recognition of these differences amongst first generation migrants was seen to influence their risk perceptions and response to flood risk in England.

### **5.2.1 “In England you can’t even think there is flooding”**

The research found that first generation migrants recognised differences between floods in England and abroad. They discussed what their expectations had been of flood risk in England: *“In England you can’t even think that there is flooding. Especially Pakistani, maybe the white people, but a Pakistani can’t even think that it will happen here”* (Samina RVFG). Nyasha, a first generation migrant from Jamaica admitted: *“No, I didn’t expect it to happen here but it did”* (Nyasha PBFG).

This preconception about the flood risk in England may be explained by the flooding abroad which may have been caused by hurricanes, the monsoon season or dam failure, which was not expected in a different, more developed environment. Thus it appeared that a Pakistani who had experienced these floods abroad had a specific perception of what a flood is, and could not imagine the same event occurring in England. This reflects the findings of Robertson (2004) where a participant argued: *“They think here in England its safe, you don’t get bad weather, not real bad things like in Bangladesh or India”* (Robertson, 2004:38).

### **5.2.2 Damage, renovation and inconvenience**

However, participants realised that England did flood after they experienced fluvial or groundwater flooding. Nyasha recalled how she only realised her street had flooded when she stepped outside:

*“I woke up, I didn’t look through my window and as I opened the door the whole road was flooded and I thought what the hell is going on and I couldn’t see the pavements couldn’t see anything, it was just full of water”* (Nyasha PBFG).

Nosheen, a first generation Pakistani migrant spoke about her shock at finding floodwater in her cellar: *“When we came downstairs we saw that there was so much water downstairs. It was so hard to sort it out. We have no idea where it came from. We think the ground”* (Nosheen RVFG). The cellars which had been seen as safe living areas were used to store valuables and were often communal family rooms in the home. Nosheen spoke about how the unexpected flooding led to loss of belongings and severe damage to her kitchen in the cellar: *“I didn’t make at the time the cellar, you know make the kitchen there and you know I*

*got loads of stuff, my clothes and all stuff down there and all its ruined...the fridge, freezer, everything was floating round in the water” (Nosheen RVFG).*

Pari, a second generation migrant of Pakistani origin spoke about how the damage to her home was so severe, especially due to the sewage from the floodwaters, that it took a year to return to normality: *“We took about a year to sort it out, and it was summer and it was smelling so we had to put the fans up for a long time so that the smell went. It smelt so badly, especially from the guttering and then when it stopped smelling then we put the carpet in, that was after a year. Then we decorated the rest of the house” (Pari PBFG).* It took Rabia, a first generation Pakistani migrant longer to recover, and she felt powerless because she had no choice but to await the repairs to her home: *“It took 2 years. We didn’t have anywhere else to go, we stayed in the back, we had a little gas for cooking and we lived like that, what else could we do?”(Rabia RBFG).*

Surjit a first generation Indian migrant discussed that the floodwaters covered the entire ground floor of his property and the recovery process impacted his family and income, especially as one room was renovated at a time: *“Well we got to do one by one isn’t it, because I had to stop work for a couple of weeks, especially with young children here, don’t want their health to get damaged and to make sure there was nothing to pay for, and get the insurance for it... we threw out two double beds, a sofa and our televisions, all the electrical equipment was damaged, we had to throw the fridge away, cooker” (Surjit PBFG).*

The literature highlighted that the severity of the flood experience influences risk perceptions (Burn, 1999). In particular, intense personal experiences of flooding mean that individuals are more likely to have increased risk perceptions than those that did not experience personal flood damage (Burn, 1999). The results of this research supported these findings as participants who flooded in the study locations emphasised the affect this had on their feelings towards flood risk, the emotional components of risk perception (Miceli et al. 2008): *“Once it’s happened, that’s it, it makes you paranoid even if it’s raining, just in case, but let me just check. I’m probably not as worried now as I was directly afterwards. I used to get panic attacks when it rained” (Naomi PBSG).*

These feelings of worry were related to the fear that the flooding would occur again: *“I’m more scared now if it happened again, oh my gosh if that happens the damage it would do, so I’m a bit more wary now, if it rains I think oh my God I hope we’re not flooded again” (Nagina PBFG).* Thus in relation to the ‘Affect’ heuristic, the severe flood experience that some individuals had in England was tagged with a negative emotion of worry, and this increased their flood risk perception (Terpstra, 2011).

### 5.2.3 The loss of lives, homes and livelihoods

Yet, similar to the findings of Robertson (2004), first generation migrants who had experienced flooding abroad also believed those floods abroad were greater in terms of magnitude and severity and therefore less controllable than the floods in England:

*“Here it comes slowly. In Pakistan it’s not like that, I have seen it myself, the water comes so fast that you think it’s going to take me with it. We were children when we saw the flooding there, there it’s different from here. The water is the same but the flooding system is different. Here at some point the flooding will stop, there the water can just carry on wherever it wants”* (Masood PBFG).

Davinder spoke about his flood experiences in India. As with Nyasha, he had opened his door to find floodwaters, but also household items being swept through the village as the water flowed through homes:

*“I was there, as soon as we open our front door we could see the household things going in front of our door. We can even see that by standing on the roof the household things were just from one street to the other street”* (Davinder PBFG).

Kamaljit also experienced flooding in India when a local river burst its banks. As well as the household items being swept away, there was loss of cattle and the collapse of homes due to the sheer force of the water. This led to a sense of powerlessness because villagers could not save their property and often had to move away from the area:

*“Yes, yes, a lot of cattle they got washed away. Yes they were mud houses and they had damage, some fell over- there wasn’t brick housing, just mud and soil. Nothing, they couldn’t do anything, you couldn’t manage it because the water was so fast, for many their belongings just washed away by the time the people in the village got to know, it just came very quickly. The people who lived deeper in the village by the water source they came to the main part of the village”* (Kamaljit PBFG).

Along with the loss of belongings and homes, participants spoke about the loss of life. Arbaaz discussed that in many cases, where people could not evacuate in time, they were simply ‘washed away’ by the floodwaters and could not be saved, further emphasising the lack of power individuals felt: *“That’s what happens in Pakistani and India. The water comes and people just move. If people get washed away you can’t save them. They will just get washed away. You get buffalos, goats just washed away. The water was so fast that it took everything along with it. There was buffalos floating by, pots and pans. I saw it happen and that’s how I know”* (Arbaaz PBFG).

It also emerged that despite the devastation, in some cases flooding abroad was also seen to be a pleasant experience. Tayaba experienced flooding in Bombay where she was raised and spoke about enjoying the monsoon floods both as a child and when she returned to India as an adult with her husband. She emphasised that because of their normalcy, the floods were

incorporated into the daily lifestyle: *“Oh Bombay, we had monsoons... and kids play in the water and you fight... it’s really hot, (speaks to husband) do you remember our first time? We walked in this much water and I was like, don’t let go of my hand, you don’t know where there’s a hole! In fact we used to look forward to playing in the dirty water, and that was so fun! That’s what I remember, school will be closed. It was beautiful because it was so hot, it was just lovely to have that rain. In India we love it, we were walking hand in hand, in the water, the flooding was fun!”* (Tayaba RVFG).

Despite some floods abroad being seen as ‘fun’, the stronger overarching theme was of the sheer destruction caused by flooding. The flood narratives highlighted that first generation migrants experience the same impacts of flooding abroad as any other population, however, the physical relevance is different. Whilst participants in England with flood damage had to have their homes renovated, migrants discussed the collapse of their homes abroad and the need to move away, where household items in England may have been damaged, abroad they were simply washed away. There were concerns about health issues and the loss of income from damage to businesses and time taken off work to repair homes in England, whilst abroad, the loss of livestock affected livelihoods and there was a greater sense of loss as family members died in the floods. As this was recognised by first generation migrants, they believed that the damage caused by flooding was greater abroad: *“That was life and death, this was just damaged items, you know, you can’t put a price on somebody’s life. That was definitely worse than this, this was a few damaged items, it’s not going to do any harm, nobody’s been hurt, it’s completely different”* (Rashida RVSG).

#### **5.2.4 It’s only a bit of water**

This realisation meant that although first generation migrants did not think flooding in England would be ‘fun’ because there were still impacts and consequences of floods: *“It would be more of a worry than ‘woo hoo monsoons, enjoy!’ ”* (Tayaba RVFG), they did not feel that the floods in England were a serious threat or in actuality, real floods. This was based on their pre-existing idea of what they perceived to be a flood which was derived from their flood experience abroad. Tayaba a first generation Indian migrant scoffed at the ‘flooding’ in her neighbourhood which amounted to an inch of water in the cellar: *“In Surat people were stuck on the terrace with cupboards and pots and pans floating by, it does affect people quite intensely and that to me is flooding you know, a little bit of water when it gets into the cellars, that to me is not, when people’s lives are destructed, that to me, is oh my God”* (Tayaba RVFG).

This attitude was echoed by Nyasha who experienced flooding in Jamaica and had to leave her home because the roof was blown off and there was no drinking water. In contrast, Nyasha was perfectly calm in England when her street flooded because there was no

comparison between the destructive floods in Jamaica and the floods in England which Nyasha described as ‘nothing’:

*“People were crying as people got washed away when they were sleeping and drowned. No, the little flooding here was nothing like compared to Jamaica... it’s not that bad, the water hadn’t come in so I thought thank god, nothing to worry about just be thankful, that’s why I was so calm. I was happy...it’s not an important topic, I mean in the sense that you know back home it was FLOODS! You hear stories and here it’s just nothing”* (Nyasha PBFG).

Thus in terms of the ‘Affect’ heuristic, first generation migrants with flood experience abroad had lower flood risk perceptions in England. They recalled the flood events abroad and this was associated with a negative emotion due to the damage that was caused. However, as argued by Robertson (2004), the experience of severe flooding in one location does not mean that the perception of flood risk will remain the same in another location. First generation migrants believed the floods abroad to be of a greater magnitude and severity, causing greater damage. In comparison the floods in England and their impacts were dismissed as ‘nothing’ and they were not perceived to be ‘real’ floods. Thus they were not worried about flooding in England, and felt safe. As Terpstra (2011) argues, where ‘affect’ is a causal factor in risk perception, feeling safe is seen as a positive ‘affect’ and leads to lower risk perceptions.

First generation migrants appeared to have a condescending attitude to the flood risk in England and how individuals responded to it because they experienced much worse in their countries of origin; the impacts of flooding were more destructive, their losses were greater, thus first generation migrants simply could not relate to the ‘flood risk’ in England: *“I have never thought about it as an issue. That’s the truth. I’ve never thought about it”* (Samina RVFG).

Therefore, although “the perceived likelihood of a risk increases if it has been experienced or can be readily imagined” (Whitmarsh, 2008: 353), in relation to first generation migrants, the perceived risk of flooding in England is lower if they have had an experience abroad firstly because it means the type of floods seen abroad cannot be imagined in England and secondly because the impacts of flooding in England are perceived to be inconsequential in comparison to the developing world. This results in first generation migrants feeling safe in England and having low flood risk perceptions, which were subsequently seen to influence their response to flood risk.



### 5.3 The response to flood risk

This section will discuss how risk perceptions affected the response to flood risk amongst first generation migrants. Individuals who had previous flood experience in England had a positive attitude to preparing for flood risk, whilst those who had previous flood experience abroad felt safe in England and were scornful of the scaremongering approach to flooding in England. They were found to have a negative response to flood risk.

#### 5.3.1 England: loss, fear, preparation

It has been discussed that previous experience may have a positive or negative influence on the response to flood risk (Burn, 1999). Miceli (2008) argued that the negative ‘affect’ of fear and worry as part of the emotional components of risk perception were related to the positive action of preparedness. Tapsell et al. (2002) reported that many people change aspects of their behaviour since being flooded, from “moving possessions to higher parts of the house to refurbishing differently in case of future flooding” (Tapsell et al. 2002:10).

The research supported these findings, as participants with severe flood experiences in England displayed higher risk perceptions in terms of worry and fear of future flooding and subsequently this led to adaptive behaviour as they made changes to prepare for flood risk. Zubeida experienced flooding in her cellar, which damaged household appliances. Subsequently she became conscious of where they stored valuables in the home: “*We’re a bit more wary of what we keep downstairs now, if anything is valuable we put it high up not low down*” (Zubeida RVSG). Similarly Alia experienced flooding in her cellar which was used as a bedroom. The cellar was still used as a bedroom after the flood but with modifications: “*We’re prepared now, because we don’t have carpets in the cellar, before we used to. We used to have the beds in there but now we’ve got the ones with the frame so if it does get flooded again the beds won’t be affected*” (Alia RVSG).

The positive response to flood risk may be better understood through the PMT (Grothmann & Reusswig, 2006) which explores how flood preparedness increases with the severity of past damage. The threat appraisal (risk perception) aspect relates to the severity of the situation and would involve perceived probability; individuals may expect to be exposed to the threat because the floodwaters entered their home previously. Perceived severity is important as it relates to the consequences of the threat and would be high as participants previously lost valuables and suffered property damage. Threat appraisal also involves fear, and as participants discussed their worry of future flooding, this would influence their severity of danger. The second element of PMT is the coping appraisal. Participants must believe that protective actions will be effective, such as moving valuables to safety, that they will be able to carry out these actions and that the costs in time and effort will be beneficial.

Participants discussed how they took protective action to prevent future losses. Finally, the ‘threat experience appraisal’ aspect of PMT is most important as it assesses the severity of a past threat experience, which is used as an indicator of perceived certainty that a flood would affect the individuals. The severe flooding experienced by individuals may have increased their belief that they may be flooded again. Thus the threat appraisal, coping response and threat experience appraisal correlated positively with a protective response to limit the impacts of future flooding.

### 5.3.2 We just got on with it...

Although Miceli (2008) highlighted how worry led to fear and protective behaviour when risk was understood as part of the ‘Affect’ heuristic, Robertson (2004) found that feeling safe decreased the perceived need for information. Bradford et al. (2012) also highlighted that “an individual can be aware of a flood risk, however, if the individual is not afraid of this risk, he or she will not take any action to prepare” (Bradford et al. 2012:2301). This was evident in this research as it was found that first generation migrants were not threatened by the floods in England, thus they felt safe. This positive ‘affect’ was enhanced by their realisation that the government played a greater role in flood risk management than in their countries of origin, and this further decreased their flood risk perceptions.

These issues were revealed as participants discussed their lack of support from the government when recovering from flooding abroad. Kamaljit explained: *“The government didn’t do anything even though there was so many losses and damage, they didn’t give money or anything”* (Kamaljit PBFG). Masood spoke about his distrust of the Pakistani government: *“Nobody is going to come to help us, neither the fire brigade or anyone else is going to come for us. Whoever comes will take money. There you have to help yourself, the government won’t help you they help themselves”* (Masood PBFG).

Thus participants emphasised how they had to manage the flood risk themselves. Tayaba proudly discussed that individuals were not reliant on authorities for support during floods abroad and were responsible for their own safety and preparedness:

*“In Surat, the flooding when it happened, you could literally walk up to your waist in water, and so people were sitting on terraces, they had to sort it out themselves. There’s not as much help as you have here, so people don’t abuse it, the system, they just get on with it, when the help came, it came... they had vessels floating around, but their livelihood, they’re accustomed to it, it’s their mentality, they just get on with it... you just deal with it”* (Tayaba RVFG).

This is interesting because it appears that Tayaba is emphasising the severe flooding experienced abroad and how the mentality of Indians is to ‘just get on with it’, because they have no choice and have to support themselves. This is important because in contrast it

appears that migrants are challenged by how people respond to flooding in England because the impacts of floods are much less severe than abroad and yet they make such a ‘fuss’ with the country coming to a standstill:

*Here there’s a bit of scaremongering I think, ... it’s systematic here, there’s very little system there, people are more innovative and just carry on, here we’ve got ... well, the road’s blocked what do I do, and that kind of ... that’s the difference. You see here when something like this happens everything comes to a standstill, people don’t know what to do, you know, insurance and safety and all that type of thing. Over there it’s different... people just carry on. Here people stop. The processes of paperwork just seem to go on and on and on. Over there, they just get on with it... if you could compare two floods, they kind of scaremonger to say don’t go out or don’t do this, get sandbags, whatever, and that fuss seems to go on and on, in India you have a bombing, the next day people went to work, people died, people still went to work, they didn’t stop. Similarly with flooding ... I’m just making a comparison” (Junaid RVSG).*

The bewilderment at the attitude to flood risk in England was further enhanced as Masood pointed out that in England, a developed country, people receive government support, which is more than what is available abroad. In India people had to sit on terraces for days to escape the floodwaters. In contrast, Masood is astounded to find that individuals in England do ‘abuse the system’ just to cross a flooded road: *“In Pakistan... the government doesn’t do anything, the people have to do everything. Here if there is any trouble, you phone and they come. When I lived here, when there was a flood the fire brigade help you because you couldn’t cross the road. They pumped the water out and took people out in little boats! They had to say help me and they got help....here the government will help you, they will make sure people are safe” (Masood PBFG).*

It appears that in making the point that during floods abroad people ‘get on with it’, first generation migrants are discussing their lack of comprehension at the response to flood risk in England. In a country that has less severe impacts of flooding and residents can rely on the government, first generation migrants appear bemused at the ‘fuss’, scaremongering and disorder caused by ‘a little bit of water’ despite a system being in place to manage the flood risk. They appear to be emphasising that they managed to ‘get on with it’ in India and Pakistan without any support from the authorities, so why can people in England who experience floods on a much smaller scale and impact and receive government assistance not do the same without causing such panic and disruption?

The research also indicated that the lack of government support abroad in contrast to England increased the feeling of safety amongst first generation migrants in England because they believed the government would protect them during and after a flood: *“I have no worries. The government is here and they will help you. In Pakistan the person would*

worry... *it's important to protect your home and then afterwards it's the government's responsibility*" (Masood PBFG). This supports the findings of Scolobig (2012): "Some residents do not feel endangered because they assume that the management of flood risk is the task of the local services, and they rely on their (experienced) efficiency and (supposed) 'unlimited' capacities" (Scolobig, 2012: 509).

### 5.3.3 "I will stay in and watch the rain"

Furthermore, Whitmarsh (2008) argued that "flooding experience does not always lead to behavioural response to flood risk; protective action can be influenced by trust in agencies responsible for managing flood risk" (Whitmarsh, 2008:353). This was evident in this research as the positive 'affect' of feeling safe as part of the emotional component of risk perception and the perceived responsibilities of the government influenced how first generation migrants responded to flood risk. When asked about her response to seeing floodwaters in her street, Nyasha flatly stated "*The one in Jamaica was worse... I just looked out and I wasn't worried*" (Nyasha PBFG), indicating her lack of fear about the floods. This may have been enhanced as the floodwaters did not enter her home, thus the impacts in developed England were not as severe as in Jamaica: "*Sturdier house....back home the roof is falling off and the water is coming in and all your furniture is getting damaged. Here everything is intact and modern and I just looked out and I still wasn't worried*" (Nyasha PBFG).

When asked about what she did in response to this flood risk, her initial thoughts were: "*Have faith they will sort it out...I'm safe... it's a first world country so they will do whatever they have to do to keep us safe. So I wasn't even thinking 'oh my god I'm gonna be trapped', I was relaxed. I just left it to them*" (Nyasha PBFG). This highlights how heavily reliant Nyasha was on the authorities and this was further reflected when she received a flood warning and decided that she did not need to respond because she was safe in her home and ultimately, the authorities would be responsible for her safety: "*They started to come round knocking doors and asking are you aware that we have a flood warning do you want to move out of your house and I said no. I will stay in and watch the rain...they were there so I was thinking I didn't need to move*" (Nyasha PBFG). This supports the findings of Scolobig (2012) who stated: "It seems that trust in the authorities is accompanied by a tendency to discount danger. The reliance on professional agencies is grounded as these are organized and efficient. This (correct) positive assessment from the residents may translate into an overestimation of their actual capacities and resources, to the point of a total delegation of responsibility" (Scolobig, 2012:9).

Furthermore, it is interesting how Nyasha says "*I will stay in and watch the rain*" (Nyasha PBFG), almost as a casual, detached observer looking incredulously at what is perceived to

be a flood in England and how the authorities respond to it. She did not perceive the flooding to be a threat, she relied on the government to manage the flood risk and subsequently and most importantly she felt safe, and thus in relation to the 'Affect' heuristic theory and the relationship between positive emotion and protective behaviour (Robertson, 2004, Miceli et al. 2008) this meant she had no desire to take responsibility or protective action; she simply watched in bemusement at how this developed country dealt with 'a bit of water'. The relationship between feeling safe, low flood risk perceptions and protective behaviour was further seen when Nyasha was asked if she had taken any precautions to manage future flood risk. She admitted: *"It's on my list to do, but at the bottom... it's not a priority put it that way"* (Nyasha PBFG).

The negative response to flood risk in England amongst first generation migrants may be better understood through the PMT (Grothmann & Reusswig, 2006). The threat experience appraisal which assesses the severity of the past event and is used as an indicator of perceived certainty that a flood would affect the individual may be an important factor that would influence the threat appraisal. In this case, the location of the past experience in a developing country led to the risk perception aspect (threat appraisal) involving perceived probability being related to the disbelief amongst first generation migrants that the flooding they experienced abroad would occur in England.

Additionally, the perceived severity may be low as migrants discussed that flooding in England is not as great a threat as floods abroad due to the lower magnitude events and less severe impact on homes, livelihoods and individuals. Threat appraisal relating to fear may also be low as it has been discussed that first generation migrants felt safe in England because of the low impact of the flood events and the greater reliance on the government for flood management. The coping appraisal aspect of the PMT may not be applicable due to the low threat appraisal, but the reliance on the government to manage the flood risk may further influence the limited individual response to flooding. Thus flood experience abroad was found to influence risk perceptions to correlate with a negative protective response to flood risk in England amongst first generation migrant ethnic minority groups.

## **5.4 Summary**

The findings of this research provided an insight into the flood risk perceptions of first generation migrants in England with flood experience abroad in developing countries. The 'Affect' heuristic theory (Finucane et al. 2000a) was used to frame the results and understand the risk perceptions of first generation migrants and their subsequent response to flood risk. The response to flood risk was further understood through the PMT (Grothmann & Reusswig, 2006).

Migrants discussed the impacts of severe flooding abroad which included loss of lives, homes and livelihoods. In many cases they had a negative 'affect' related to this experience abroad and a specific perception of what a flood was and its impacts; this influenced their expectations of flood risk in England. They could not imagine the floods abroad and their impacts occurring in a developed environment, and subsequently this indicated a lower flood risk perception in England in contrast to abroad. This highlights how perception of flood risk may not transfer from one location to another location.

These risk perceptions were further reduced when first generation migrants compared their flood experiences abroad to flooding in England. On the basis of the differences in flood magnitude and severity, first generation migrants could not relate to the supposed flood risk in England. They believed that flooding in England consisted of 'a little bit of water', whereas the floods they experienced abroad were 'real' floods. First generation migrants effectively mocked the flood risk in England because they felt that the floods were pathetic in comparison to abroad. They were not threatened by the flood risk in England.

Furthermore, it emerged that first generation migrants not only derided the flood risk in England, but also how individuals and the country as a whole responded to it. This insight into their perceptions was revealed when they spoke about the lack of government support abroad, and proudly discussed how they were responsible for their own safety and survival in a flood. In contrast, first generation migrants were challenged by the response to flood risk in England, where there is government support and the floods are 'nothing' in comparison to abroad. First generation migrants felt that there was a greater focus on scaremongering in England with the health and safety aspect limiting the actions of individuals to the extent that they were unable to take the initiative to respond to a flood without relying on the authorities; effectively they were perceived to be 'abusing' the system. First generation migrants could not understand why the response to flooding in England caused such panic and upheaval whereas abroad they 'just got on with it'.

Yet it appeared that despite their confusion at the response to flood risk in England, the old analogy 'When in Rome, do as the Romans do' applied to how first generation migrants responded to flood risk. They discussed how people in England were abusing the system, yet they appeared to do the same; first generation migrants felt that in a developed country the government would protect them in a flood event and would be responsible for managing the flood risk. In the context of the 'Affect' heuristic, this feeling of safety combined with the existing lack of fear of the flood risk in England resulted in low flood risk perceptions amongst migrant ethnic minority groups (Terpstra et al. 2011) and a subsequent negative response to flood risk because migrants no longer felt that they were responsible for managing the impacts of flooding (Robertson, 2004).

The existing research highlighted that flood experience may increase perceived risk (Siegrist & Gutscher, 2008), whilst Miceli et al. (2008) argued that the affective emotions of worry and fear related to increased risk perceptions would lead to protective action. This was evident amongst some migrants with flood experience in England who were worried about future flooding, and these negative emotional affects led to a positive response to flood protection, as was understood through the PMT. Yet amongst some first generation migrants, the location of their previous flood experience in a developing country meant that risk perceptions did not transfer across to a first world country that is perceived to be safer in terms of the magnitude and impacts of flooding and the governmental protection available. These factors were important components in understanding the response to flood risk amongst first generation migrants in the PMT. The resulting ‘affect’ of feeling safe in England indicated decreased flood risk perceptions amongst first generation migrants and a negative response to flood risk. The research therefore provides an insight into how the difference in location of a previous flood experience amongst migrant ethnic minority groups constructs their understanding of flood risk in England.

These findings are important in the context of this research because they not only reveal the notions of flood risk amongst first generation migrant ethnic minority groups, they also raise questions about whether these low flood risk perceptions and the negative response to flood risk may be transmitted to subsequent migrant generations as part of intergenerational communication which may occur as part of the social network contagion theory (Scherer & Cho, 2003). This will be explored in Chapter 7. Furthermore in terms of notions of risk, flooding appears to be an insignificant issue amongst first generation migrant ethnic minority groups, however, the discussion about flooding inadvertently revealed what migrants and specifically first generation South Asian migrants perceived to be a greater risk in England. This is discussed in Chapter 6.

# Chapter 6: Intergenerational and gendered communication: Power, control and conflict

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## 6.1 Introduction

This research is about the communication between generations around risk. It has been discussed that first generation migrants did not see flooding as a risk in England. However, during the discussion about floods, the interviews revealed wider social issues as South Asian migrants discussed what they perceived to be a greater risk; the westernisation of women, and this influenced intergenerational communication (Enarson & Morrow, 1998, Nathan, 2008).

First generation migrants believed the westernisation of women affected the honour of the family and this fear led to the enforcement of patriarchal practices relating to men's power and control over women, traditional gender norms and social and cultural constraints. The resulting gender inequalities limited women's voice in the home because they had no power to make decisions. This is understood in the context of bargaining power (Agarwal, 1997). This chapter will also use the acculturation theory (Berry, 1997) to discuss how second generation migrants had a bicultural identity, whilst the majority of first generation migrants maintained a 'separated' identity, and how this acculturation gap increased intergenerational conflict (Farver et al. 2002, Choi et al. 2008). Second generation migrant women attempted to take back the power. Gender intersects with class, and their education gave them greater bargaining power (Sen, 1985) and a voice to make decisions, and ultimately they devalued traditional knowledge from abroad in the UK and limited communication with judgemental elders. This devaluation of knowledge will also be understood in the context of the acculturation gap. The research also indicated that older, educated women had a stronger voice than adolescent women because gender also intersects with age.

The revelation of the daily communication patterns relating to who makes decisions in the home and who has a voice are important because these issues may influence intergenerational communication during a flood event (Enarson & Morrow, 1998). This may include whether there is communication about flood risk and whether indigenous flood knowledge is accepted. Furthermore, the enforcement of gender norms is a reflection of traditional practice which led to the gendered impact of disasters in the developing world.



These practices may therefore influence women's practical response to flooding in the study locations.

## **6.2 The challenges of migration**

The majority of participants in the qualitative interviews were women, and the possible reasons for this have been discussed in Chapter 4. The female participants included first and second generation married and single women, adolescents from the age of 16 to their early 20s as well as older women in their late twenties, early 30s and those aged over 40. The men who were interviewed were older, in their early 30s and over 40s. There were no male adolescents included in the sample as they were unwilling to participate. Subsequently, although the research findings include the voices of men, they have a stronger focus on women and their communication relationships because there was more data relating to women and the issues they raised.

It must be highlighted that in many cases this research found that first generation migrant women displayed behaviour that was also characteristic of second generation migrant women. This indicated that the behaviour of first and second generation migrant women cannot be compartmentalised, instead there is a 'blurring of the lines' and an overlap in how women of different generations may communicate. This may be related to the age at which an individual migrated to England. The literature discusses that there may be first and second generation migrants, but there are also 'decimal generations' to distinguish immigrant children who may arrive at different ages (Rumbaut, 1994). Immigrant children who arrived between the ages of 13-17 are termed the 1.25 generation (1.25G) because their experiences are closer to that of a first generation immigrant. Children who emigrated from their country of origin between the ages of 0-5 are termed the 1.75 generation (1.75G) because their experiences are closer to a second generation immigrant. The 1.5 generation (1.5G) refers to people who immigrated between the ages of 6-12. They bring characteristics of their home country but also continue assimilation and socialization in the new country. Their identity is a combination of new and old cultures (Rumbaut, 1994).

It is important to understand that the age at which a first generation migrant immigrated to England may be a factor in influencing their identity and subsequently their communication patterns, and this may explain why some first generation migrant women had attitudes similar to second generation migrant women. This is highlighted throughout this research where necessary.

The existing literature highlighted that acculturation is seen as a threat to the continuation of migrants' identity and culture (Renzaho et al. 2011) because it involves absorption of the norms, beliefs, attitudes and behaviours of the host society (Johnson, 2004). Thus first

generation and second generation migrants may feel the need to communicate the norms and values of their culture to their children in order to address the acculturation process (Dasgupta, 1998, Metoo & Mirza, n.d) and maintain the norms and values of their culture of origin (Merz et al. 2009). This was evident in this research as participants highlighted the importance of communicating their religious and cultural beliefs to their children as well as teaching them their mother tongue. This resulted in second generation migrants having a bicultural identity due to the acculturation process, whilst first generation migrants maintained a separated identity (Berry, 1997). This is discussed in further detail in this section.

### **6.2.1 The communication of beliefs and values**

Participants discussed that learning to read the holy Quran was essential for all children and even more so because it was a tradition that was passed down through the generations. Maria (33), a second generation Pakistani migrant spoke about the importance of sending her children to mosque in order for them to learn about their religion: *“They go to mosque every day, after school, because as well as school we should be sending them to Mosque, so they know what to read and write in their own language, read the holy Quran”* (Maria RVSG). When probed further as to why it was important for her children to attend mosque, Maria replied: *“That’s how I’ve been brought up, that’s what my mother did for me, that’s what I will do for my children”* (Maria RVSG).

The importance of religion was communicated between generations and continues to be enforced to future generations, thus it becomes the norm for Muslim children. It was also seen to be important amongst other religious groups. Jamaican born Nyasha migrated to England over 15 years ago. She spoke about how the church was a large part of her upbringing and in turn she is attempting to raise her children in the same way:

*“Well as I grew up in church I tried to make my kids grow up in church and at the moment my daughter is going to a catholic church, and you know knowing god and praying and stuff like that, it’s part of everyday. That’s what I used to do anyway. Yeah, I do believe in god ... I do have a strong belief....from back home yeah. Every Sunday you had to be at Sunday school, without a doubt you had to be at church”* (Nyasha PBFG).

The communication of cultural beliefs involved respecting elders. Saima (32), a second generation Pakistani migrant emphasised the importance of teaching her children to respect their elders to maintain cultural values: *“It depends on your upbringing, if they are not taught respecting your elders, how are they going to know? In our society everybody in England is equal regardless of age, you know what I mean, we have to respect your elders, they are older. It’s just how our culture is. There are some people who are in the British culture but there are things that I still stay true to in my culture.”* (Saima RVSG).

Subsequently, as part of the culture it was disrespectful to raise your voice to elders or argue with them. Jamal stated: *“That’s the way I’ve been brought up, I’ve been brought up to respect older people, if my uncle doesn’t like something I’ve done and he could be swearing at times at me, I will not even say anything back to him, you know”* (Jamal RVFG).

It was also seen to be important for children to learn their mother tongue in order for them to be able to communicate with their elders. Manpreet (31), a second generation Indian migrant emphasised that because she lived in England it was important to teach her children Punjabi, so they could communicate with family, especially on visits to India, as this would facilitate their involvement with their culture: *“It is hard....you know....teaching your kids the language that you know because I believe strongly that sometimes we go back to visit our family back home in India..if you don’t....if kids or you don’t know your home language people over there might feel...I believe you know you need to know that so that at least you can actually fit in to some degree. I mean yes you are from abroad you are always going to stick out like a sore pin but if you can try and get involved and be able to talk to them I do think if you know what kind of culture they have got I think it is really important”* (Manpreet PBSG).

Thus the research indicated that as part of social reproduction, intergenerational communication involved traditional cultural and religious beliefs in order to ensure the continuation of migrants’ identity.

### **6.2.2 A bicultural identity**

The research also indicated that second generation migrants and first generation migrants who arrived in England when they were very young were socialised by parents who brought the language, values and customs of their country of origin, but were also educated in the host country and were subject to new customs and norms (Phinney et al. 2001b). Thus they experienced acculturation and displayed a bicultural identity, which was evident when exploring how they communicated with their elders. First generation migrants noticed that despite their attempts to encourage them, their children were not speaking their mother tongue. Pari spoke to her children in Punjabi. She found that they could understand her but would only reply in English:

*“Yes they speak in English, my youngest doesn’t even know Punjabi, he’s 7 and he only speaks English! Sometime I don’t even understand it! He speaks it at school, at home. I tell them to speak in Punjabi, they understand but they don’t answer in Punjabi, they say they like speaking English. He goes to school and speaks English and talks to his brothers and sisters in English as well. It’s become his main language”* (Pari PBFG).

These findings support the existing literature; research on immigrant families by Wakil et al. (1981) also found that “unlike their parents, the children always spoke English. Interestingly, children who understood their mother tongue whenever addressed by their parents, tended to answer in English” (Wakil et al. 1981:937). Thus parents were pleased that their children had greater fluency in English, but “they resented the fact that this had resulted in an ever-increasing communication gap between them” (Wakil et al. 1981:937). Similarly in this research, Rubina a 1.75G migrant found that her elders became frustrated with her because she could not communicate fluently in Urdu: *“I get told off if I don’t talk in my language, but I find it hard! You know when the elderly women come and they want to talk, sometimes I’m OK, but ... they say what are you saying, we asked you something else!”* (Rubina PBFG).

Thus despite the attempts to encourage children to learn their ‘mother tongue’, there was evidence of an acculturation gap between generations based on the languages spoken by first and second generation migrants (Choi et al. 2008). Feeling more comfortable speaking in English may be due to having greater contact with wider society than their parents, such as through school or among peers from other backgrounds (Phinney et al. 2009:530). This may have resulted in adult migrants adapting to the culture of the receiving country slower than their children.

Additionally, there were cases where the mother tongue was spoken equally as much as English, but the participant would switch between languages based on whom they were speaking with, siblings, friends or elders, as discussed by Anisha: *“We speak, me and my brother speak English between ourselves. When our parents are in the room I will speak Urdu- Punjabi with them and then convert into English straight away, whilst I am speaking to my brothers. So they are both the main languages for us really, we use both of them”* (Anisha RVFG). This was also seen in the case of Jabeen who argued: *“It depends on who I am talking to. If it was my granddad or mum and someone like that then it is mostly Punjabi. My own siblings and my dad, English, so it just depends on who you are with”* (Jabeen RVSG). This is supported by the literature as Lindridge et al. (2004) found that participants could speak their parents’ native language and “their bilingual ability related to the need to negotiate an existence within two cultures, with South Asian languages spoken during family encounters to demonstrate cultural conformity” (Lindridge et al. 2004:223). A participant in the study by Lindridge et al. (2004) argued “If I’m talking to ‘gran level’, then I’ll definitely speak Gujarati... aunts, half-half- some pure Gujarati and some English...I speak to my elders in Gujarati out of respect and because they don’t understand me when I speak English” (Lindridge et al. 2004:223).

The existing research has indicated that language is a significant component within the acculturation process. Nauck (2001) discussed the strategic effect of family language

retention on the acculturation process. It was highlighted that language retention is strongly related to the parent's ethnic identification. The acquisition of the language of the receiving society increases the proportion of interethnic members in the network of migrant youth. The proportion of intraethnic network members has a positive effect on ethnic identification, both for parents and their adolescent children (Nauck, 2001). Thus in this research, in the context of acculturation theory and the acculturation gap, speaking English in comparison to the mother tongue may be an indication of second generation migrants integrating within the wider community outside of their ethnic group at a faster rate than their parents.

### **6.2.3 A separation strategy**

This was explored further within the research. The findings indicated that second generation migrants had an integrated bicultural identity, whilst the majority of first generation migrants had a 'separation' acculturation strategy within acculturation theory because they focused on maintaining their cultural values and beliefs (Johnson, 2004).

The research suggested that some first generation migrants wanted to be involved in British society and attempted to learn English. Kamaljit (32) migrated from India three years ago to marry her Indian husband living in England, and discussed her desire to be able to communicate with others in English: *"If somebody speaks English, it makes me feel a bit weird because I want to speak it too, you do feel it, like everywhere that we go I have a problem with the English, everybody speaks in English and I feel that I want to know English, I want to talk to people in English as well. It's not that we only want to speak in Punjabi"* (Kamaljit PBFG).

Jatin (34) migrated from India to England two years ago with his family for work and agreed to be interviewed to improve his English. His wife discouraged him, because she was worried his English was not good enough. Jatin was adamant: *"When you come, my wife said you talking not very good, and I said I don't care, I try to speak to people. She understands. Also, I'm listening to language, I'm not scared, I try to speak to people, I need a chance"* (Jatin RVFG). Jatin felt that it was important to socialise with his workmates to learn about the British culture in order to be accepted. Furthermore, he was eager to learn about social etiquette because he seemed almost embarrassed about wearing traditional clothing or eating in the traditional way:

*"I need to learn this Yorkshire accent, so I learn from them in the pub in nighttime. I need to go there, because I need to understand it, the culture and what they are speaking is different you know, we need to know if we want to live here. My family are new to this country and try everything so we wish to live here... we need to know the culture and everything, otherwise, if I go even to a party and use my country clothes, Mindu and shirt what happened then you can imagine, all people wearing different dress coat and I am one man you think, and eating in a different style,*

*everyone eating with knife and fork and I eat with hands, what happened then, its trouble, so I need to know everything. I don't know how to eat with knife and fork at party, then I can understand which hand knife and which hand fork" (Jatin RVFG).*

In contrast, some first generation migrants who may have arrived with family or migrated to places where their ethnic group was in the majority may not have had to make this effort to be involved in the wider community because they associated with other members of their ethnic group (Johnson, 2004). Their attitude was noted by non migrants like Jane (43) who said: *"You have got a lot of Muslim people, it is not because they are Muslim, it is because they are foreign and won't integrate, do you know what I mean? It is a case of well, I won't do it, I'll stay within the community and I don't want to mix with other people... it's all they know, it is all they know do you know what I mean...elders in the family, they tend to stick with who they know. Which you would do, I mean, I would. If we moved to Pakistan and there was a road there that was full of Asian people and there was a road there full of English people, which one would you live in? It makes sense you know, you have got to go you know, where you are safe, where you can be part of that little community"* (Jane PBNM).

This lack of integration amongst first generation migrants was recognised by and led to frustration amongst their second generation children. Junaid was born in England when his parents migrated from India. He spoke about the mentality of first generation migrants and their tendency to avoid involvement in the British culture, and not understand when second generation migrants become integrated as 'British Asians':

*"I've kind of more adapted to this area but I do understand ... because people came here, they stopped here, they came together because they have common factors, but in terms of their mindset they're still 25, 30 years back. I'd say locally as well, as this area is, there are still elements of people that don't know English and still kind of keep away from, you know, anything to do with being English or British, whereas I understand both generations, I can be British and British Asian ... but I think there's a lack of understanding of being a British Asian from previous generations"* (Junaid RVSG).

This view was also echoed by Saima who expressed her disapproval at her family and South Asian people in her community who avoided speaking English and integrating with the wider British community. Instead they tended to stick together in accordance with the cultural norm:

*"My mum and my in-laws they all live in England, and they have lived here for a long time now and, my mum and my mum-in-law because they are sisters, they understand full English so they know what's going on but, I don't know, it's their mentality, they can't speak it, someone has to go with them, they are shy. I said we would by now have learned your language, we would be speaking it, why are you not? But it's just a cultural thing, you know. That is one thing I don't like about our*

*Pakistani community, they don't partake too much in this country, at the end of the day we're living here and for Christians to know we are integrating, is that the right word, we need to speak their language, we should do that, that's number one. Obviously if they want to have all the benefits they... you should learn that language and obviously, you know ... but you don't want to learn? I think that's really bad of Asian people!"* (Saima RVSG).

Ghuman (2003) also highlighted that first generation migrants may have lifestyles close to those in their country of origin, with chain and marriage- migration leading to extensive network formations and this was evident in this research. Anisha argued that there was a lack of involvement amongst migrants from Mirpur outside of their ethnic group and a greater focus on maintaining and implementing collectivist cultural beliefs including gender norms relating to women cooking and cleaning and wearing traditional dress as well as involvement with the extended family. The enforcement of traditional beliefs was facilitated by them living in close proximity to one another, and thus forming close networks (Ballard, 2002):

*"Their attitude, cultural ties between themselves like family, they are very closely tied together as family, the extended family and everything. So in one area ....their neighbours will be their cousins, their aunts and uncles, grandmas and so on. And they are very involved within their own families as well and they are not as active, they are becoming active especially towards the religion side but they are not really as active and outgoing or outspoken and stuff... in the Kashmiri families it is expected more that you do these kind of things, you know you stay within the family, you spend a lot more time with the family and you do the cooking and the cleaning, wear the traditional clothes all the time"* (Anisha RVFG).

Second generation migrants argued that the enforcement of cultural and gender norms were emphasised more by members of their ethnic community who were less educated, and this supports the literature in terms of Pakistani migrants, class and gender relations (Ali et al. 2011). Thus these migrants expected their children to follow traditional practice, leave school at 16, get married and have a family (Ali et al. 2011, Charsley, 2013). This was emphasised by Alia who argued: *"The people, their thinking is a bit weird, in to say that they're not very educated, they like to...they're school leavers and they don't have much understanding, they're not on that level, they're 16 and they just get married straightaway"* (Alia PBSG). This view was echoed by Anisha who spoke about the Mirpuri community and their lack of drive for education, which supported their focus on maintaining a traditional lifestyle: *"This area it is a very deprived area, it needs to develop a lot more and it really shows in the community in the people as well and their attitudes towards things, their lifestyle and stuff. They don't have a drive for education and they don't really encourage their children to educate or work hard in school or help them with their homework, or encourage them in life"* (Anisha RVFG). This supports the literature in terms of less

educated first generation Mirpuri migrants enforcing traditional gender norms in the household to avoid becoming 'modern', which includes restricting the further education of their children, and instead focusing on the role of women in the home, with the subordinate position of women reinforced by the close knit extended family (Ali et al. 2011).

Thus in relation to the acculturation theory, some first generation migrants in this research were seen to emphasise collectivist cultural beliefs including gender norms and displayed a separated acculturation strategy, whilst second generation migrants displayed a bicultural identity. The resulting acculturation gap influenced intergenerational communication in the home and this is explored further in this chapter.

#### **6.2.4 Women and the risk of westernisation**

The findings relating to gender norms were important in the context of this research, because the results suggested that the related gender inequalities were not simply a continuation of behavioural patterns from abroad; instead the root causes of gender inequality, namely honour and shame were still believed to be relevant within the migration context. Hierarchical power relations are related to patriarchy where unequal relations between the sexes lead to men's authority and power over women and the enforcement of gender norms. This involves ascribing men and women to different behaviour patterns, abilities and attitudes (Agarwal, 1997). The gender norms effectively determine the behavioural expectations of men and women. This male dominance and patriarchal control originated from the perceived need to control women's sexuality to protect patriarchal property in many regions in South Asia (Wilson, 2006). In breaking the patriarchal rule, a woman was seen to damage the izzat of the family (Wilson, 1978).

In this research, it was seen that the traditional concepts of izzat or honour were still important amongst South Asian migrants in the study locations and were related to pride in one's origins and religion. The research indicated that acculturation increased the fear amongst first generation migrants that outside influences would lead to women betraying their traditions and becoming modern or westernised. This would include becoming 'western' in terms of clothing and attitude, having relationships before marriage and defying parental authority. This westernisation of women, or what may be perceived to be 'integration' as part of acculturation theory (Berry, 1997), would threaten the izzat of the family and lead to a decline in social standing because women would be seen to have betrayed their origins.

This may be related to the existing literature which highlighted that the notions of risk and what individuals may perceive to be a risk will vary (Robertson, 2004, Nathan, 2008). What is seen to be a risk is subjective (Bradshaw, 2013) and may differ by gender, age and ethnic



group (Finucane et al. 2000b, Bradshaw & Linneker, 2014). Pidgeon et al. (1992) argued that “different cultures have different views on the ranking of risk and the types of risk they worry about” (Pidgeon et al. 1992:108). In the context of this research, first generation migrants did not perceive flooding to be a risk in England. However, South Asian migrants did perceive the westernisation of women to be a risk, especially because they had a separated identity, and this influenced the daily communication between migrant generations. There was greater emphasis on force and control to protect the family izzat. This involved the enforcement of patriarchal practices, gender norms and social constraints by both men and women to prevent women betraying their traditions and becoming westernised, and to control the women who were already perceived to have integrated into British society. The social reproduction of traditional gender norms determined how women may think, speak, dress and interact. The resulting gender inequalities between subsequent migrant generations along with the limited bargaining power of women (Agarwal, 1997) influenced whether women had a voice in the home and were listened to. This communication between generations is discussed in this chapter and related to women’s response to flood risk in England.

### **6.3 The enforcement of patriarchal control**

This section will discuss how patriarchal practices and gender norms were enforced by first generation migrants in order to protect the family izzat. This includes discussion of issues relating to relationships before marriage, controlled education and male chaperones and how the resulting power inequalities and social constraints may influence women’s response to flood risk in England.

#### **6.3.1 Relationships before marriage**

Jamal was born in Pakistan and migrated to England when he was 6 months old. Following an early education in England, his family moved back to Pakistan when he was 4 years old before migrating to England for a second time when he was 14 years old. On his return to England, all of Jamal’s friends were ‘white’. He confessed that he had a problem with speaking English and having ‘white’ friends was an attempt to improve his language skills. He even had a ‘white’ girlfriend.

The existing research on South Asian immigrants in the UK discusses that individuals can bring shame and dishonour to their family through having sex or relationships before marriage (Brandon & Hafez, 2008). This research found that gender inequalities meant that there were different attitudes towards men and women having pre-marriage relationships and this may be related back to the origins of patriarchal control; the behaviour of women, not men, is a threat to the honour of the family (Wilson, 1978).

Nevertheless, having a girlfriend and especially a white girlfriend was not culturally acceptable within the Pakistani community and Jamal tried to hide it from the community: *“Everybody kind of knew that I had a girlfriend, even though I tried to keep it under my hat”* (Jamal RVFG). His parents attitude to his relationship is intriguing: *“My dad never said anything, because he kind of ignored it, I think he did know, but my mum used to always shout at me...when I was a kid obviously, then I grew up to the age of whatever and she kind of left me to it. She said I would learn my lesson and I have, we learned that we would never be accepted no matter what we do”* (Jamal RVFG).

Looking back, Jamal now aged 34 admitted: *“I was a bad boy, yes, because when you’re young you don’t realise, but then I realised what I was doing wrong, because...their community doesn’t accept you, and then you think well, what do you have to do, and eventually you think you’re better sticking to your own”* (Jamal RVFG). This indicates the struggle that Jamal faced having a bicultural identity. He attempted to fit into the ‘white’ community but felt he was never fully accepted, and his actions led to disapproval from within his own ethnic community because he was too ‘white’: *“Yes, but then it was over, but they were still scared you know, ‘he’s even more of a white person than’...and they don’t accept you and they don’t either”* (Jamal RVFG).

Having a relationship before marriage is frowned upon in the Pakistani community, yet Jamal having a white girlfriend was ‘ignored’. He admitted that he was a ‘bad boy’, but similarly a female being labelled as a ‘bad girl’ would indicate she was sexually available and lead to shame (Wilson, 2006). It seems that his parents disapproved, but because he was male, the reaction was not as severe as if a Pakistani female had a relationship with a member of the ‘white’ community, which would bring greater shame to the family. This indicates gender inequality and this is supported further by Jamal’s beliefs about raising girls in England.

In a display of hypocrisy, Jamal explained his fear of raising a daughter in England, where he believes there is a risk that outside influences may lead her to betray her culture, and become westernised by having a boyfriend. This ‘generational gender inequality’ occurs because the daughter of any South Asian household is seen as the ‘izzat’ or honour of the house and having a boyfriend would tarnish the izzat of the father (Wilson, 1978) and lead to a decline in his social standing (Brandon & Hafez, 2008). Thus Jamal discussed his fear of a daughter tarnishing his reputation in the face of his ethnic community, yet Jamal having a girlfriend didn’t seem to evoke the same reaction from his parents:

*“I’m very old fashioned still, in a way... do you know something, I was telling my wife, I couldn’t bring up a daughter in this country. I couldn’t be trusted to bring up a daughter, I’d be a wreck and that’s probably the only time I’ve prayed to Allah to*

*say give me a son, because I would be worried that...the way things are going these days it is very hard for you to keep...like I say I'm very old fashioned, my izzat is everything to me and to me a daughter is izzat to anybody. That the way I've been brought up by my mother... I don't know, there's probably something wrong with me, but I wouldn't want to bring a daughter up in this country, I could not see my daughter walking with a white guy or anybody, you know I'd probably lose it, I'd probably end up in prison somewhere, if you know what I mean, maybe you're thinking he's silly thinking that, but that's the way I feel"* (Jamal RVFG).

Jamal highlighted that *"a daughter is izzat to anybody, that's the way I've been brought up by my mother."* This indicates that gender inequality was enforced by his parents and Jamal follows these beliefs. This is important because it indicates that gender inequalities are continuing with future migrant generations because traditional hierarchies remain after migration and are enforced through daughters (Alam, 2014). This is further seen as Jamal discussed that he had a strong fear of his daughters straying from the traditional path, but felt that raising a son was easier. Jamal talked about his nephews who he admitted were rebels like he was, but he spoke of their actions fondly, almost dismissing them as folly of youth and a rite of passage to becoming 'wise':

*"I won't be worried about a son, hopefully one day he'll, I know when you get older you get a bit wiser, but like my nephew many a time, I drive different cars, I drive past them and I saw him at night and he was like 'oh no he's seen me', and I called my sister in law and said 'where is he?' She said 'in bed' and I said 'he's not!' So he's running home and then she asked him and he's like 'I'm only talking to my mates', at 3.30 in the morning you should be in bed!...and he's more wiser now, he was a rebel like me"* (Jamal RVFG).

It appears that there is fear that daughters will stray from the traditional path especially living in England where this is believed to be a greater risk due to outside influences and the acculturation process. On the other hand, because of the existing gender inequality, men diverting from their cultural beliefs is not entirely accepted but is ignored and dismissed because it is women's actions that affect their father's izzat (Wilson, 1978). Therefore in order to address the fear that women will dishonour the family, the research indicated that patriarchal practices involving gender norms and social constraints were enforced to control the behaviour of women.

### **6.3.2 Education in a controlled environment**

In the case of Jamal, he discussed how carefully daughters have to be raised. This supports the findings of Ghuman (2005) who argued that "many parents feel strongly that their daughters carry the izzat of the family and that they need protection and 'extra care' in their schooling and socialisation" (Ghuman, 2005:620). Jamal acknowledged that he did have girlfriends, and at the time it was not an issue. Yet having nieces himself, he felt there was a

need to protect them from boys, and this was achieved by segregating them from mainstream British culture, toward Islamic girls' schools:

*"If I had a daughter she's probably be going to Islamic school and not in a mix, but I've been to school, you know, I've done it myself, English girlfriend, and I've had more besides you know, I've had Indian girlfriends, I've had Chinese, I've had everything, but they were somebody's daughters and we used to start with their brothers, 'what's it got to do with you', and now I've grown up, now I've got more thinking, you know, now I'm dreading... really dreading having a daughter, I couldn't bring one up because I'd be too strict, because that's the way I've been brought up...my brother he's the same, he's got one daughter and he's never hit her, he's never said anything to her, but he's always more careful, he sent her to a private Muslim girls school here, then she wanted to get a degree, she has done it, child care, but the parents got together, it was me, and my brother, parents got together and brought university teachers into that Islamic school, to the sixth form and everything, she carried on, so she didn't have to go to university, the university teachers came to them" (Jamal RVFG).*

Thus it may be seen that the enforcement of patriarchal control limited what women were allowed to do. Jamal and his family allowed his niece to fulfil her ambitions and gain a university degree, but through a tightly controlled approach. The men, Jamal and his brother, held the power and allowed her to achieve what she wants to achieve, but in a manner that was acceptable to them. It appears that there is a lack of trust in women, and thus there was tight control over who they were allowed to interact with. Patriarchal control was exerted as allowances were made for Muslim females as a group to ensure they did not mix with boys and risk shaming the family. This supports the existing literature which argued that patriarchal practices may be amplified through regulating female behaviour by ensuring that she mixes with her own (Meetoo & Mirza, n.d).

Not only does this indicate the enforcement of gender inequality and control over women, but because the women in the family don't have the power in this situation, their choices are bounded. This can be related to Sen's (1985) capability approach. Due to the gender inequalities that arise from patriarchal control, women have less freedom than men and this influences what they can achieve, because they do not have a voice; if they want further education they must follow the rules that their male elders have enforced. Furthermore, Sen (1985) argued that education increases bargaining power, yet in this case their education itself was controlled to ensure that women did not gain power to have a voice in their home. This controlled education indicates segregation of these women from British society and culture in order to ensure that they follow Islamic traditions and beliefs. This may be seen as a further attempt to preserve traditional Islamic beliefs and avoid integration as part of acculturation as well as ensuring women do not gain power to challenge patriarchal control and continue adhering to gender norms (Ali et al 2011).

### 6.3.3 Male chaperones

The enforcement of patriarchal control was also seen in the case of Samina. Samina spoke about the restrictions she faces as a woman in her household. Samina is 24 years old and was born in Pakistan. She moved to England at the age of 20 when she married her British Pakistani husband and thus is a marriage migrant. In order to speak to Samina, permission had to be sought from her husband prior to the interview. Samina was asked about whether she had strong cultural beliefs, and it emerged that her husband was extremely vocal about what she is and is not allowed to do, indicating the enforcement of social constraints based on traditional gender norms. This indicates that in seeking a ‘traditional’ wife from Pakistan, Samina’s husband as a British Pakistani may have hoped to reassert gendered relations of power (Charsley, 2013):

SR: And do you think you have any strong cultural beliefs, things that you do in your home, or things that you did in Pakistan that you come and do here in England?

*“No, I’m not allowed, my husband doesn’t let me”* (Samina RVFG).

SR: Like what?

*“Like anything you know, I mean I want to learn how to drive, but my husband said no. I really want to do it. I really have a passion for driving, but he says no, you know let him (my son) get a little bigger and then we will get something nice for the house, you don’t need to drive... you know my husband he’s totally old man! (laughs)”* (Samina RVFG).

Samina’s husband restricts her from learning how to drive, possibly because in relation to traditional gender norms, he sees her place as being in the home. This may be seen further as he is quite patronising in defence of his decision. In order to placate her, a gift is offered for the home, where presumably his wife is expected to ‘keep house’. The fact that Samina says he is being an ‘old man’ implies that she knows he is maintaining traditional ideologies and beliefs about the role of women in the home, but she is bounded by the traditional notions of what women may be allowed to do. The prevention of driving lessons may be to restrict her freedom, but what is interesting is that not only does he control his wife, but also his mother, providing further evidence of the enforcement of gender norms across generations. Samina’s mother in law was also prevented from learning how to drive, and thus it appears she had less power in her household than her son. She encouraged Samina to learn to drive, and the fact that Samina asked her mother in law to speak to her husband highlights the intersection between gender and age, and shows her recognition that she has the least power in the home; in relation to ‘uncontestable’ social norms an older woman has more authority than a younger woman, however, an older woman may in turn have less authority than a younger or older man (Agarwal, 1997). This was evident as instead of listening to her opinion, her son resorted to emotional blackmail:

*“First I asked my husband and he said no, so I tell my mum and she said to him ‘why are you doing this, you didn’t let me learn, and now you don’t want to let your wife learn’...yeah, like she forces him, like she said ‘you didn’t let me learn, so at least let her learn, at least the day will pass, otherwise we have to phone someone and wait for them to come and take us.’ But he says no. My mum in law paid a man for one lesson and my husband came back and said ‘I’m not talking to you, I’m not your son if you go again (laughs)...The thing is, if what my husband says doesn’t happen then there a fight! (laughs). Yeah my husbands the boss! (laughs). He’s the boss of everyone, he’s the boss! (laughs)” (Samina RVFG).*

The quote indicates that in not allowing Samina or his mother to learn to drive, Samina’s husband has control over their actions. They cannot leave the home without waiting for him to drive them. This suggests that he wants their subordination because he may perceive that as they are women, they belong to him and he has the power to control them (Wilson, 2006). His enforcement of patriarchal control may also be related to the fact that the driving instructor was male, and thus if Samina was seen learning to drive from a male instructor, this may increase the risk of gossip which would affect the izzat of the family because of social norms that determine how men and women may interact, and because gossip, even if untrue can damage the status of families (Brandon & Hafez, 2007).

Samina knows that her husband is in charge; he holds the power and dictates to the women in his family in a bullying manner. This gender inequality may be acceptable to Samina who has recently arrived in England and maybe she accepts the situation as the norm, which is why she can laugh it off. It appears that Samina views her husband’s actions as a way of life and therefore as she can’t change it, she can only laugh at his behaviour. This may be related to the bargaining theory; women may have less bargaining power because of gender norms, but because the gender norms may be seen to be a natural part of the social order and thus uncontestable, they cannot be bargained over (Agarwal, 1997). Thus Samina has to listen to her husband because he is in a position to dominate her, and because this is a social norm, Samina cannot argue against his hierarchical role, and her subordinate position, therefore she has no voice in her home against the decisions he makes.

#### **6.3.4 Social constraints and flood risk**

These are interesting findings in the context of this research as the existing literature on the developing world has highlighted that patriarchal societies are stronger in ethnic communities and influence whether women are listened to in the home.

In this research, the acculturation theory (Berry, 1997) as well as bargaining power (Agarwal, 1997) was used to frame and help understand the research findings in relation to the communication patterns in South Asian households and the extent to which women may have a voice in the home. The research found that amongst first generation migrants there

was a desire to maintain their cultural values and communicate these to their children, especially because the acculturation process was seen as a threat to their identity and culture. This led to first generation migrants maintaining a 'separated' identity whilst their children had a 'bicultural' identity because they were still involved in wider society yet were taught about their religion, mother tongue and cultural values.

As part of their separated identity, some first generation migrants maintained their cultural beliefs including the social reproduction of gender norms; the research highlighted that the traditional concepts of *izzat* and honour were still relevant after migration within the study locations, especially amongst the lower class, less educated Mirpuri migrants. Acculturation increased the fear that women would become modern and westernised and this would bring shame to the family, thus the westernisation of women was seen to be a risk.

In the case of both Samina a first generation migrant and Jamal's niece, a second generation migrant, because of the fear of westernisation, communication in their household occurred through control, especially control by men. Jamal did not trust his niece for fear of her straying from the traditional path and having boyfriends whilst attending mainstream schools, while Samina and her mother in law were not trusted to leave their home without being accompanied by the men of the household. Thus the fear of being shamed led to patriarchal control which involved the enforcement of social constraints based on gender norms. In Jamal's case, girls were not allowed to mix with boys, and were encouraged to interact with individuals within their ethnic community. Samina and her mother in law did not have the power to make decisions and were not allowed to leave the home without a male chaperone.

The inequalities in power were seen to influence what women were or were not allowed to do on a daily basis, especially as they had no bargaining power to challenge men. They could not make decisions themselves but had to listen to the male heads of the household. Therefore the communication flow was unidirectional; from men to women, top to bottom (Figure 6.0).

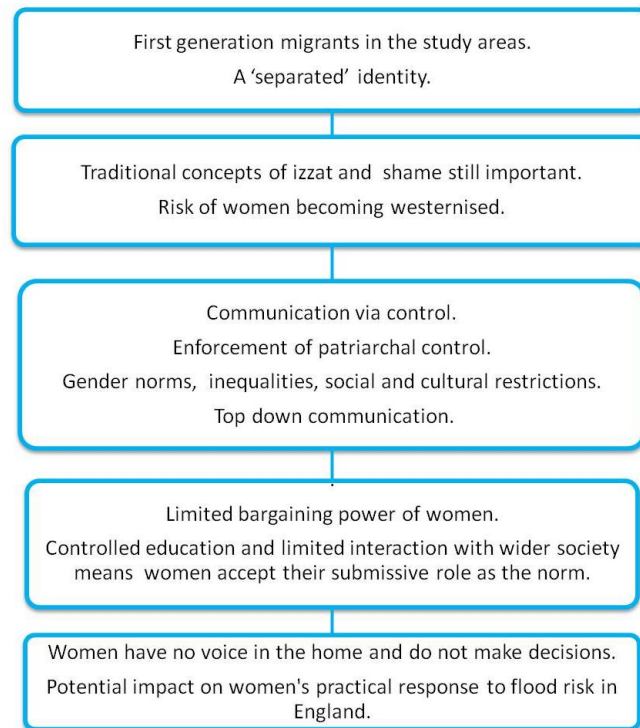


Figure 6.0 The enforcement of patriarchal control limited whether women had a voice in the home.

Furthermore, the existing literature in the developing world has suggested that the enforcement of social constraints based on gender decreases the ability of women to save themselves in a disaster (Bradshaw, 2013). The social constraints may mean that women need chaperones to leave the home, as was seen in Bangladesh where women received cyclone warnings and because they could not make decisions themselves, they waited for a male figure to arrive and give them permission to leave their home (Plan, 2011).

In this research, it is argued that if women in the study locations do not have the power to make everyday decisions and have to listen to the male heads of their household as a consequence of the social reproduction of gender norms, this may influence how they respond to flood risk. They may not be able to act until they receive permission from the men in their family. Thus this research indicates that the enforcement of traditional patriarchal practices, gender roles and social constraints which increase women's vulnerability to the impacts of disasters in the developing world may also be an issue for migrant generations in England and their practical response to flooding. This is discussed further in Chapter 8.



## 6.4 Taking back the power

The research also indicated that although gender inequality was seen to continue with migrant generations, not all women accepted patriarchal practices and fought to have a voice in the home. Renzaho et al. (2011) found that first generation Arabic migrants in Australia clashed with their children who were involved in the individualist culture of their new environment as opposed to displaying traditional collectivist behaviour. The acculturation gap led to intergenerational conflict and a system of close control over their children. This resulted in children disengaging from family activities, because their interaction with the individualist culture highlighted that their parent's behaviour was an invasion of their privacy and freedom. Thus integration as part of the acculturation process increased their awareness of the constraints within their ethnic community and this 'outside earning' in terms of social networking in wider society (Sen, 1985) increased their power in the home; second generation migrants distanced themselves from their controlling family.

Similarly, in this research first generation migrants had a separated acculturation identity where they maintained their traditional beliefs, whilst second generation migrants had a bicultural identity, which may have been encouraged by their education in England. This resulted in intergenerational discrepancies in cultural values (Phinney et al. 2000) and a culture clash between first and second generation migrants. Women who integrated into British society were believed to have become westernised, and this was perceived to be a betrayal of origins and therefore a threat to the honour of the family (Brandon & Hafez, 2008). This led to the enforcement of patriarchal control to manage the risk of women shaming the family. This involved elders in the ethnic community attempting to regulate female behaviour by communicating through judgement, force, gossip and control.

However, their integration into the wider British social network as part of acculturation theory, and their education in England increased the bargaining power of second generation migrant women and first generation women who had migrated at an early age. They had a voice outside their home and the power to recognise, oppose and challenge patriarchal control, gender inequality, and constraints based on social and cultural norms inside their home, highlighting how gender intersects with class (Ali et al. 2011). In taking back the power, women influenced the flow of communication; their education gave them the power to make decisions in their home (Sen, 1985), and they also limited communication with the judgemental members of their ethnic community. Such communication patterns may influence how women respond to flood risk in England.

This section will continue to use the acculturation theory and bargaining power to frame the discussion about how women challenged their elders' enforcement of cultural norms and use

of gossip as a form of control. They devalued indigenous knowledge from abroad and had a voice in the home to make decisions.

#### 6.4.1 Challenging elders

Anisha, a married 30 year old was born in Pakistan but migrated to England when she was very young; hence she attended British schools and was raised in England where she attended university and gained both a Bachelors and Masters Degree. Thus Anisha may be considered to be a 1.5 generation migrant because she arrived in England between the age of 6 and 12 (Rumbaut, 1994) and had a bicultural identity and this may explain why she challenged the attitudes of first generation migrants. Anisha had earlier highlighted class issues, where a lack of education meant that there was a focus on maintaining cultural beliefs within the Mirpuri migrant community (Ali et al 2011). She further discussed that the focus on the social reproduction of cultural beliefs led to members of the community to be vocal on their opinions towards second generation migrants, who they believed were becoming westernised. They especially focused on women and their clothing because cultural values were enforced as aesthetic preferences to wear salwar kameez and the headscarf, thus wearing western clothing was seen to bring shame to the family (Brandon & Hafez, 2008, Charsley, 2013).

Therefore communication in Anisha's family involved elders and the extended family making judgemental comments about her English clothing and it may be seen that through being judgemental, they were trying to control Anisha through encouraging cultural dress (Ali et al. 2011). This approach is not as severe as the patriarchal control seen by Jamal and Samina's husband, but there is still an aspect of trying to guide women in the 'right' direction, based on gender norms and religious beliefs on what is appropriate dress for women: *"Dress sense is one, in culture they prefer you to wear traditional clothes and stuff like that. All the aunties and uncles they prefer you to wear salwar kameez at home. They say 'don't you have anything else to wear, why are you always wearing these dark colours and these leggings and trousers and stuff all the time', and they are not afraid of speaking their mind....."* (Anisha RVFG). Anisha also highlighted that elders made comments about her 'modernity' in terms of being outgoing and her lack of involvement with traditions relating to the collectivist culture (Charsley, 2013): *"They mention in a gloating kind of way, 'oh you are not cooking, you are always out with friends, you are not coming around enough' "* (Anisha RVFG).

This indicates that there was a culture clash between Anisha and her family, and this is further emphasised when Anisha was asked if she agreed with the cultural norms: *"No. I don't think I do. I would like to challenge them and see if they get changed"* (Anisha RVFG). Anisha wanted to challenge these judgemental attitudes and was not afraid to

continue wearing her English clothing despite the culture clash: *"We carry on, yeah, no I feel comfortable wearing this!"* (Anisha RVFG). She argued: *"I don't mind wearing traditional clothes, I actually do like salwar kameez and stuff wearing them, nice and colourful but you don't want to wear them all the time, so even at home or when you are just seeing your family or friends you know, wear western clothes"* (Anisha RVFG).

This attitude may be related to her education as well as her involvement in wider British society which allowed her to recognise the cultural restrictions in her community and gave her a voice to challenge them. This was in contrast to Jamal's niece who had a controlled education so that her interaction with wider British society was limited and thus her social constraints may have been considered to be the norm. Samina was not educated in England and was confined to the home, thus was not exposed to 'outside earning' (Sen, 1985) which may have provided her with better leverage in the home in terms of a bargaining position. Instead, her lower levels of education meant that she was powerless and continued adhering to gender norms where she had little decision making capability.

Anisha felt that in wearing western clothes she was not betraying her religious beliefs because she still covered her body. Challenging elders and wearing non traditional clothing may be an indication of movement away from her ethnic community in terms of following cultural practice, but by also respecting religious beliefs, this further supported her bicultural identity: *"It is difficult, what do we do that.....we have a mix of identity and we are doing these for these things like certain things we are doing for our religion, certain things we are doing because they are Pakistani, certain things we are doing because we call ourselves British and it is hard to define what they are. Adapting, I am not completely Pakistani culture burned in me and stuff and that is all I follow, that is all I do, I am not all British either, it is like all of them mixed in, just take the best of them"* (Anisha RVFG).

Anisha took back the power from her elders by adapting her English clothes for cultural functions, combining the two distinctive styles of dress so that the English clothes were appropriately worn within Islamic beliefs: *"I did once buy a dress but you have got to make them appropriate. We already tried to adapt them for our.....make appropriate for our way of dressing, our culture and their family so you are not looking out of place. But I did once buy a dress for a wedding but I had to accessorize a lot with it, I had to buy a shrug to cover my arms up to make the sleeves. It was a long dress, I mean as part of Islam I wouldn't show my legs in public anyway, so it was a long dress but it was kind of made up of silk and it was like hugging my legs, but I can wear something underneath so it stands up so it doesn't really fall and show the legs completely, so I can wear some leggings or tights underneath anyway"* (Anisha RVFG). In doing so, her elders could not argue with her choice of clothing because she was still respecting her religious beliefs.

Anisha's actions can be related to research by Dwyer (2010) who reported that for some individuals, adopting a form of dress which was islamically correct meant challenging parental ideas about what was appropriate attire for young women. There were also similarities between Anisha's behaviour and the actions of participants in Dwyer's research who argued: "It's like wearing a long skirt, wearing westernised clothes, which cover you up. They turn round and say you can't wear it because you're not allowed to wear it. And we say we're right because we're covering ourselves and there's nothing wrong with wearing it" (Dwyer, 1999:17).

Thus the research indicated that although Anisha was a first generation migrant like Samina, because she migrated at an earlier age, specifically she was a 1.5 generation, and thus had a bicultural identity, where she opposed some traditional cultural and social norms. This culture clash led to a judgemental attitude from her ethnic community, yet Anisha continued to challenge their beliefs because she felt that she was maintaining her religious beliefs whilst also having a British Asian identity, and thus conforming to cultural beliefs was irrelevant. This indicates that Anisha had a voice in her community and bargaining power within her family to express her opinions and made her own decisions; this may be related to her education in England, which as part of the acculturation process may have further encouraged her bicultural identity, and led her to recognise the constraints that she faced, especially as she argued that a lack of education meant that there was greater emphasis on conforming to cultural beliefs and gender norms within her ethnic community.

#### **6.4.2 Gossip as a form of control**

Anisha had highlighted the close knit structure of Mirpuri- Pakistani migrants with extended family living in close proximity and their high level of involvement in each other's lives (Ballard, 2012). This supports the argument by Lindell & Perry (2004) that ethnic minority groups are more immersed in kin networks than the majority. It was felt that the close proximity of relatives led to interference: "*I like English people because I don't like Asian people too much, fed up! Oh the Pakistani, Indian people ... family, they have many problems, and when you go to the English, I don't think so they interfere with your life*" (Arbaaz PBFG). Arbaaz highlighted that he perceived the interference amongst Pakistani and Indian families to be a cultural norm unlike English families.

Anisha also emphasised that the close knit structure in Pakistani families led to 'nosiness' about an individual's life and she distanced herself from this cultural behaviour: "*In Pakistani cultures they expect you to know a lot of things between your families and be more involved with their day to day issues and I think that is a cultural thing, you are expected to do that and I don't do that. I don't want anyone to know what I am doing on a daily basis and I don't think it is any of their concern. I can't help them, if I can help them with*

*something then I don't mind knowing it but if I can't help them to solve their problems then I don't need to know, I don't want to know. I think...they are just nosey people and want to know everything and I don't have that. I stay away from it"* (Anisha RVFG).

It appears that Anisha recognised that the interference and nosiness displayed by members of her ethnic community ultimately led to further communication in the form of gossip. Anisha negated the power held by members of the community by distancing herself from this communication pattern so that they could not gossip about her. This gossip was not seen to be a productive form of communication and Anisha neither listened to nor participated in this cultural norm: *"The family make up and getting involved with family issues and concerns I think that is kind of like a cultural thing where you know what your cousins are doing and this cousin said this and did that and I feel there isn't a lot of that. With my family, with my cousins, aunties and uncles and stuff, even at home they are talking, I think that is a very cultural thing, like every day they are 'so and so has said this so and so has said this today' and I try not to get involved in any of that"* (Anisha RVFG).

This nosiness may be seen as a form of control because finding out information about an individual gives members of the ethnic community the opportunity to judge and shame them for being in a situation that could be prevented if they had not become westernised. This was emphasised by 18 year old Jabeen who stated that she would not tell her private business to her wider family because of the fear of gossip and judgement: *"Yeah there's nothing much we can talk about without them thinking 'why are you in that situation anyway'. They know us, but we wouldn't cry our hearts out, we know everyone so it's risky as well"* (Jabeen RVSG). Thus the cultural norm of communication via interference and gossip led to second generation migrants negating the power of elders by limiting communication with their ethnic community.

This was further seen in the case of Noreen, a 33 year old first generation (1.5G) Pakistani migrant who came to England when she was very young and thus displayed a bicultural identity as she was raised in England. She discussed her anger as the intrusiveness of members of her ethnic community and the lack of trust they have in her. She works at a school and went to work in the holidays to help one of the teachers. This immediately led to speculation amongst individuals from her ethnic group as to the nature of her work and it appears they were questioning whether Noreen was telling the truth.

This can be related to gender norms and the expected behaviour of women. Nathan (2008) discussed that people tend to prioritise certain risks over others, and in this research flooding was not perceived to be a risk, but a woman's actions in relation to leaving the home were perceived to be a risk. Vaughan & Nordenstam (1991) also argue that "individuals from varying ethnic backgrounds may differ in their tendency to emphasize certain risks and

downplay others, because the subjective “meaning” of any event may be derived largely from culturally based normative belief and value systems” (Vaughan & Nordenstam, 1991:31). Thus it was not acceptable that Noreen visited the school when it was not open and this raised questions about what she may have been attempting to hide, especially as her job may have opposed gender norms on the role of women in the home. This led to gossip in the community and led to Noreen maintaining a distance from her ethnic community to avoid the attempts at controlling her actions:

*“I work at a school. I was at work over half term and I was helping my friend, and most people, even her next door said what school is open over half term and I said it’s not the school, it’s her office, but they don’t understand that- what school is open on a Sunday. They don’t get it” (Noreen PBFG).*

SR: Ok, so you feel the Asian lady isn’t supportive?

*“Yeah, she was saying ‘what school is open? You do too much at that school.’ I can’t let my friend down” (Noreen PBFG).*

SR: Ok, so do you have friends within your ethnic community?

*“Yes, but not in the house, not too many. I do let people in the house, the ones I don’t are just nosey and are just going to look around and not your friends...some of them are OK, but some of them, like I said, they are just nosey” (Noreen PBFG).*

This is interesting in the context of this research, because if a women is questioned over her actions, then on the basis of previous gossip and discussions over her behaviour, individuals in her community may not believe her if she has information about flooding. Furthermore, as Noreen feels that members of her ethnic community doubt her words and actions, this leads to her limiting her daily communication with them. The way individuals communicate on a daily basis may influence how they communicate in a flood event. This will be explored further in Chapter 8.

Saima, a 32 year old second generation Pakistani migrant also emphasised the intrusion she felt as a newly married woman living in a community where the neighbours were family members. Saima negated the power held by her family by moving home so she was not located within close proximity to them: *“Everyone knows what’s going on, even with our own Asian families, there is so much backbiting, she said this and that, they tell stories about each other. It was the same in Queen Street and I was newly married and every single thing of my business the street knew. I lived with my mum in law for 7,8 years and here I’ve moved to my own house, here my neighbours are very good, they’re very good, but nobody’s exactly too... if something happens we go to their house but not that much” (Saima RVSG).*

Thus the research indicated that an acculturation gap led to second generation women opposing traditional collectivist beliefs, which suggests that they distanced themselves from

following cultural practices. Additionally, the fear that women were becoming westernised led to first generation migrants enforcing patriarchal practice and communicating in the form of judgement, interference and gossip in order to control women. Older, married women who had been educated in England subsequently had greater bargaining power and the confidence to vocally challenge the cultural and gender norms that were being enforced on them. They negated the power held by members of their ethnic community by limiting communication, and therefore distancing themselves from members of their ethnic community.

These findings are important in this research because if lines of communication between generations are broken as a consequence of women negating the power of elders, then women may not communicate about flood risk to members of their family and ethnic community, and if they do, they may not be believed based on the judgement over women's behaviour against gender norms. This is explored further in Chapter 8.

#### **6.4.3 Elders? They can't advise on issues in England**

Furthermore, where patriarchal control was enforced and women obeyed social constraints, communication flowed from top to bottom and men made the decisions. However, where women attempted to take back control and challenged the enforcement of cultural and gender norms, this also influenced the flow of communication as women had a voice against their elders. The research suggested that women took back the power from their controlling elders by making their own decisions.

The results indicated that as participants thought their ethnic community could be quite judgemental and nosy, they kept their distance from the community. This affected whether they asked elders for advice when making decisions. As Noreen discusses, if elders are asked for advice they want to know more than she would like to tell them and so she avoids asking their opinion: *"Not really, if I ask them, they give advice and say what do you want to do that for, why are you getting that, so that's more, not the question I asked"* (Noreen PBFG).

There was respect for elders, because as discussed earlier, this was seen to be an important cultural belief. Therefore, second generation migrants listened to what elders said but made their own decisions because elders' mentality was perceived to relate to issues 'back home': *"Listen to them, but it doesn't mean just because they're older they're right. Listen to them, don't get me wrong, having an older person is good, they have been through life and, you know, they can guide you, but it doesn't mean they're right, you know, they will say one thing, save the money, send it back home, build a house. That's all they think about. No, they've got knowledge but you've got to use your own head as well"* (Shwaib PBFG).

Furthermore, because first generation migrants were not believed to have integrated into British society, they were not believed to have the knowledge or experience to provide advice on issues that may arise. Nasma a second generation migrant argued: *“Well you see my mum grew up in Pakistan, you know if there was stuff regarding back home or may be something that I knew that she would know better about then I would take her advice but where stuff like you know you said the schools, my mum doesn’t know, I mean she cannot turn a laptop on and take out the Ofsted report can she, whereas I can so I would know better, so I wouldn’t really consult her on that, you see”* (Nasma RVSG). This indicates that although some traditional cultural knowledge from abroad may be valued by second generation migrants, this knowledge may not be perceived to be relevant or applicable in terms of managing issues in England and therefore may be seen to be devalued in the wider context. Moreover, first generation migrants are not believed to have the relevant knowledge to advise on issues in England due to their lack of integration into British society. This devaluation of knowledge was also seen in the study by McFadden et al. (2014) who researched the devaluation of traditional knowledge relating to breastfeeding amongst Bangladeshi migrants. This devaluation of knowledge may be due to the acculturation gap between generations.

Rashida, a second generation migrant agreed that the generational acculturation gap may be too large for her mother to advise on issues she is facing and instead she would turn to her siblings for advice as they had similar experiences: *“I think probably the people that I can relate to a little bit more because the issues that we have now my mum probably can’t relate because ...I think it’s the generation that’s going through at the same time, so for example like my sisters, you know, I think they’re probably more of a first port of call. The issues that we have now my mum probably can’t relate because ....she will give you a really good example from her days, so that you can relate to that and she’ll say, look, in my day this is what we had to do, ... but I think things have changed so much that it’s very hard to go to mum for advice, she’s very good with relationships because obviously that’s something that, you know, never goes away really”* (Rashida RVSG). This can be related back to the research by Nayar & Sandhu (2006) who found that narrative communication patterns of first generation migrants involved telling stories based on personal life experiences, but these experiences appeared outdated and irrelevant to a child in western society. Similarly Rashida felt that her mother could only tell her a story about her past experiences abroad, which would not be relevant in managing the issues she faced in England.

The research therefore indicated that parents or grandparents would be asked for advice on some issues that they would know about such as relationships, cooking or dressmaking, indicating that some traditional, cultural knowledge and beliefs were valued. However, it



appeared that elders only had the power to influence decisions in relation to cultural issues, as seen in the case of Nasma and her communication with her mother: *“I take advice on stuff that she would know about...If I wanted to know how to cook something. Yeah, how do I make this, then I will ring her up...advice on how to sew a dress or something”* (Nasma RVSG). In the wider context, the experience and knowledge of first generation migrants from abroad was perceived to be dated and irrelevant when managing issues in England. Their lack of involvement and integration in British society, and their desire to maintain a separated acculturation strategy meant that elders had no experience of issues relating to education or schools in England. Thus it was believed that because first generation migrants were unaware of how to manage issues outside of their cultural context, they did not have the knowledge to advise on such issues in England.

Hence although elders would be asked for advice on issues they ‘specialise’ in, this traditional knowledge as well as their experiences abroad were not perceived to be relevant and thus may be seen as being devalued in the wider context of managing issues in England. This devaluation of traditional knowledge amongst second generation migrants may be related to the acculturation gap (Nayar & Sandhu, 2006, McFadden et al. 2014). This raises questions about whether flood experiences and the related indigenous flood knowledge from abroad would be valued or considered to be relevant amongst migrant generations and this is discussed further in Chapter 7.

#### **6.4.4 A role reversal: the power of education**

Subsequently, women were able to take back the power when making decisions in relation to issues outside of their home. Women had been judged for becoming westernised and integrating into British society. Yet this integration and especially their education was also seen to be beneficial because older, first generation migrants may have had power inside their home, but by not integrating and maintaining a separated identity, especially through not learning English, they limited the power they had outside the home. Therefore, women were in a position of power, because their education gave them a voice in the home about issues outside of the cultural context and the power to make decisions (Ali et al. 2011). This can be related to the work by Sen (1985) who argued that in terms of the bargaining power of a woman, outside earning in the form of education can determine women’s position in the family, and as Lawrence (2003) argues, this influences their social position in society and their decision making power.

The literature also emphasised that “to say that families are battlefields between generations is an oversimplification and an exaggeration. In many cases, conflict is mixed with caring and cooperation, and rejection of some parental standards and practices is coupled with acceptance of others. Families create strong emotional ties that bond members together, and

even young people who resent parental constraints and obligations feel, at the same time, a complex combination of affection, loyalty, gratitude, responsibility, and a sense of duty to their immigrant parents” (Foner & Dreby, 2011:548). This may explain why second generation women distanced themselves from their family and ethnic community but were still involved in helping their family with issues in wider British society.

One aspect of role reversal involved overcoming communication barriers. It has been well documented in the literature that the acculturation gap often leads to immigrant children being called upon to serve as language and culture brokers between their parents and members of the host culture. “Non English speaking parents’ expectations of, and dependency on, their children to be cultural brokers for translating, mediating and interpreting” (Foner & Dreby, 2011:548) is discussed in the literature. “Language skill deficits and a lack of education make older immigrants dependant on their adult children. These elders are more dependant and require assistance with translation” (Sharma & Kemp, 2012:130). Thus first generation migrants rely on their second generation children to communicate because of their language constraints. This was evident in this research as Saima spoke about her mum’s dependency on her when communicating or managing outside the home, in what may be seen as a reversal of power: *“When I used to go with my mum to the hospital, and I’d have to go, it was me who was contributing. It’s not that they won’t speak English, it’s because it’s me who gets the message across you know, from the telephone company or from the internet company”* (Saima RVSG).

Anisha also emphasised that despite the judgement over her lifestyle, her education afforded her some respect amongst her ethnic community, even more so than the men. She argued that it was her education and not her age that gave her a voice in her home. This indicated a role reversal where children guide their parents and knowledge flows up from child to parent and a further example of women taking back the power in the home:

*“The older generation, my parents, my aunties and uncles and I think because of like some of the girls are working, they kind of.....the older generation gives you a lot more respect and because of the education as well and everything. They try to involve you in decision making.....so if you want to discuss something and finalise on something and stuff they get you more involved, they ask for your opinion, they might do their own thing at the end of it but they do ask...I think it is because of education. I don’t think it is because of age. Because they always see you as kids they never see you as grownups but I think it is through education and work experience really”* (Anisha RVFG).

SR: And what kind of things would they ask you then?

*“Things like recently they wanted to do some visa applications for abroad to call these people who issue visas so it was like asking what is the best thing to do, who’s name should we do it in, what is the process to follow, can you do some research*

*and things around buying a house, you know, should we buy a house in this area, should we not, how would the mortgage work and everything” (Anisha RVFG).*

SR: And if you weren’t educated would you still be asked about mortgages and applying for visas?

*“They would ask and then they would get a second opinion. Now they don’t have to. Last year I have got a cousin who did ‘A’ levels and nothing after that, just worked. His mum will ask him stuff and then she will come and ask me and I am like did you ask him, she goes, he doesn’t understand, I don’t understand what he is talking about, so can you just sort it out for me. So they do, they will ask their own and I think he is really educated and stuff” (Anisha RVFG).*

Anisha discusses that if she was not educated, her family members may still ask her opinion, but would get a second opinion. It is interesting that Anisha was only asked for advice after her elders spoke to a male member of the family, who was less educated than her. Thus, a woman may have a stronger voice in the home to challenge the social, cultural and gender norms that are enforced, she may make her own decisions and have a voice in decision making in the home because she is educated, but it appears that elders in her family would still talk to an uneducated male before they get advice from an educated female. Thus gender norms still appear to be relevant within households despite women being educated.

This was further seen in the case of Jamal who sent his nieces to university within an Islamic school, yet there was still a desire for the boys in the household to gain the same qualifications: *“My brother said ‘I wish my son had done what my daughter done, she’s done well, you know, even she’s done well, you can’t say that, but when she gets married off, she’ll be gone’, and he said ‘I would spend anything on one of my sons to get a degree in anything’, but it puts her down a bit” (Jamal RVFG).* Ultimately, despite the achievements of women, it is still preferential for men to achieve more because in relation to the concepts of honour, izzat and patriarchal rule, when women are married they are no longer seen to belong to the men in the family. Thus the voices and achievements of men appear to hold greater value.

It has been discussed that in the context of acculturation theory, second generation migrants in this research had a bicultural identity and there was an acculturation gap between them and first generation migrants. This led first generation migrants to enforce patriarchal control and gender norms to prevent women from shaming the family. The acculturation process however, influenced how first (1.5G, 1.75G) and second generation migrant women responded to this control; being integrated into the wider community and being educated in Britain involved ‘outside earning’ and increased the bargaining power of first (1.5G, 1.75G) and second generation migrant women. They challenged the enforcement of gender norms and social constraints, limiting communication with and distancing themselves from their judgemental elders. As a further consequence of the acculturation gap, they were also seen to

devalue traditional knowledge from abroad as being irrelevant in managing issues in England. These women had a voice in the home to make decisions.

These are important findings in this research because women may not ask the advice of elders with flood experience abroad as their experiences and knowledge may not be perceived to be relevant in England, and this is explored in Chapter 7. Yet due to the role reversal where women have a stronger voice in the home due to their education and integration in British society, in the case of a flood event, migrant parents may listen to educated women because they may not have the knowledge to respond to the flood themselves. In this case, knowledge would flow up from second to first generation migrants (Figure 6.01). On the other hand, because of their value of education, if elders were advised of a flood by an uneducated woman, they may not listen to her, instead relying on the advice of men. These issues are explored further in Chapter 8.

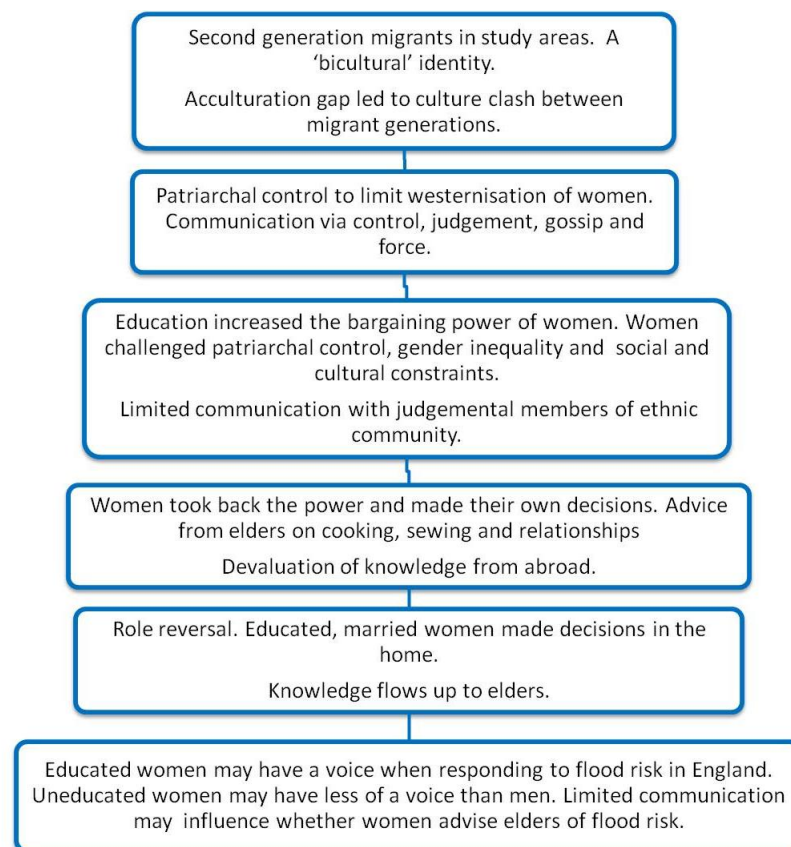


Figure 6.01 Educated second generation women challenged patriarchal control and took back the power. They had a voice in the home to make decisions and knowledge flowed up to parents.

## **6.5 The limited power of adolescent women**

The research also indicated that not all women who recognised the inequality they faced had a voice in the home. Adolescent women who had a bicultural identity discussed the controlling, bullying nature of their grandparents which related to enforcing gender norms to control women who they perceived to be at risk of becoming westernised. Despite their education, these women had less bargaining power than older, married women and did not have a voice against their elders because they were constrained firstly by their gender and secondly by their age and subsequent social norms relating to the hierarchical position of their grandparents. This highlights how gender intersects with age to influence the extent to which younger women can be heard in the home (Agarwal, 1997).

Thus adolescent women took back the power from their elders by disengaging with them in the form of limiting communication. They ensured they respected their elders because this was an uncontestable norm but maintained a closer relationship with their parents who understood their bicultural identity. This further highlighted the acculturation gap between adolescent women and their grandparents and this was seen to influence how adolescent women made decisions in the home. First-generation migrants did not listen to adolescent women and vice versa. These were important findings as the daily communication patterns between first generation migrants and adolescent women may have an impact on how they communicate in a flood event.

This section will discuss the issues faced by adolescent women in the home, the controlling behaviour of their grandparents and the enforcement of gender norms. It will highlight the closer relationship between adolescent women and their parents in comparison to their grandparents and how this influences whether they have a voice in the home.

### **6.5.1 A ‘bad’ girl: gossip, marriage and disobedience**

The research indicated that adolescent women faced the same issues as older women, of living in two cultures, yet there was a greater sense of control over them, and a sense of being trapped because they didn’t have the power to fight against their elders. This was seen in the case of Saba, an 18 year old second generation migrant who lives with her parents. Her parents were born in Pakistan, but her dad moved to England when he was very young and was raised in England, whilst her mother came to England as a marriage migrant.

Saba talked about being judged by her ethnic community for not wearing her headscarf. It appears that the way elders communicate to Saba is through attempting to shame her into wearing traditional dress, and this may be seen as an element of patriarchal control to stop her from becoming ‘modern’ (Charsley, 2013). Saba felt hated by her elders because she has

not conformed to traditional beliefs about dress, and this led to her feeling more comfortable with individuals outside of her ethnic community:

*"I don't know, it's just how it is, especially in this area and people that you know are the most likely to hate you and people that you don't know are most likely to like you, but mostly in our community they judge you...basically the Asians are going to be like don't do this, something like that" (Saba RVSG).*

SR: Ok, so you feel better being with people from outside the ethnic community?

*"Yes. Like wearing your scarf, I don't wear it but I say it's your own choice, if you want to wear it or not and people shouldn't think you're a bad girl because you don't wear it, but I still strongly believe in it and, you know, one day maybe I will wear it but I don't wear it because ... I won't wear it because she said, told me to wear it, so I don't think I will wear it until people stop telling me to wear it, and it's my own choice, so that's what I strongly believe in" (Saba RVSG).*

Similar to Anisha's arguments, Saba feels that she has strong religious beliefs, but will not be pressured into making decisions by the controlling elders in the community. Although being labelled a 'bad girl' is clearly upsetting for Saba, she is attempting to take back the power and make her own decisions by not conforming to what may be seen as a bullying attitude to wearing her headscarf. Thus similarities can be drawn with Anisha who also continued to wear western clothing despite the comments she received; both women took back the power by making their own decisions and not listening to elders.

However, where Anisha confidently ignored the comments of others, Saba appears to be more affected and disheartened by the comments made about her. This may be due to her young age and that the pressure to wear traditional dress is fuelled by the wider ethnic community: "a woman's subordinate position is reproduced and maintained...through adherence to cultural and religious norms... reinforced by the extended family" (Ali et al. 2011:18). Saba does not wear her salwar kameez when she goes to work, and this triggers gossip within the community: *"Salwar kameez? I do wear it most of the time, it's just when I go to work or work experience and stuff like that, it's more expected that I don't wear it because we wear uniforms and stuff, and most of the time I'm out, but when I'm out I see people I know and they say 'oh she doesn't wear it', it's because of that" (Saba RVSG).* This may be upsetting for Saba because of what the wider community perceive her clothing to represent. This is discussed in the literature where Dwyer (2010) looked at young British Muslim women and the construction and contestation of identity in two schools in England. In one school, the majority of pupils were of a Mirpuri- Pakistani background, lived within close proximity to each other, with the majority of their parents being uneducated and employed in unskilled or semi-skilled jobs (lower class). The pupils were subject to greater scrutiny from the Mirpuri community than peers in a middle class school where parents had professional occupations (higher class).

Participants used Asian/English to describe their clothing with the Asian clothes relating to tradition and ethnic identity, whilst English clothes signified westernisation and modernity (Dwyer, 1999:11). These “patriarchal discourses use young women’s dress as a marker for the boundaries of a collective religious or ethnic community so that Asian clothes are signifiers for young women’s religious and ethnic integrity. English clothes signify rebelliousness and active sexuality and threaten religious or ethnic purity” (Dwyer, 1999:11). Hence these discursive formations were important for participants from the Mirpuri community because as they explained: “If you just walk down the street and you’ve got trousers on. One lady says ‘I saw so and so’s daughter and she’s started going out with boys.....just because you’re wearing English clothes” (Dwyer, 1999:12). Hence members of the Mirpuri community were under scrutiny by the neighbours and wider extended family, in order to monitor dress and uphold the family honour.

Lindridge et al. (2004) also highlighted that “clothing conformity was motivated by an inherent fear among participants that being seen wearing the wrong clothes i.e. revealing western designs, by the South Asian community would brand them as a ‘floozy’ or a ‘slut’ or damage their family’s reputation” (Lindridge et al. 2004: 226). They were judged for wearing English clothing and similar discussions were highlighted in this research where individuals were judged by their clothing. This may have been because as Anisha said, the Mirpuri community lived in close proximity to each other, were uneducated and emphasised cultural beliefs as was seen in Dwyer’s (2010) research.

Thus Saba not wearing her salwar kameez caused gossip in the community because it represented that she is modern and sexually available, hence being termed a ‘bad girl’ by the elders in her family. Furthermore the literature on shame in the UK has discussed that gossip and rumour can damage the status of individuals because the action has become public knowledge (Brandon & Hafez, 2008). The fact that her ethnic community talked about her may be seen to bring even greater shame to the family.

Saba discussed that the gossip in the community led to discussion in her family about her clothing, with elders talking behind her back. She feels that her parents are more understanding of her decisions but because of the hierarchical position of grandparents, they must listen to the elders:

*“Yes, mum’s alright with it and dad’s alright with it, it’s just, you know, they don’t like it when other family members say it. It’s just like grandparents because they are obviously older and stuff” (Saba RVSG).*

SR: And have they spoken to you directly about it?

*“No, usually family members talk behind your back and then you hear about it” (Saba RVSG).*

Thus despite her parents being more understanding than her grandparents, there is still a concern about what society will think of her. This results in her parents listening to the advice of their elders in ‘controlling’ her: *“I say ‘oh I will go to the cinema or something’ they say, ‘yes, you can go’, but if it was my grandparents they think I shouldn’t go, they would say ‘don’t go’ and I would be like ‘ok I won’t go’, they have to listen to their parents, and I won’t go, usually they are ok with it”* (Saba RVSG). Saba took back the power by continuing to wear clothing she preferred, but ultimately, she still had to listen to her parents because of the hierarchical position of her grandparents who ruled the family (Stuart et al. 2010). Additionally, defying parental authority would bring further shame to the family (Brandon & Hafez, 2008).

Furthermore, the gossip in her ethnic community was not only related to her clothing, but to her ‘modern’ choices in life such as disobeying her traditional mother by not getting married at 18 (Ali et al 2011) and looking for employment instead. Saba says this view is based on a lack of education and focus on cultural traditions amongst her elders. This supports the notion that marriage migration is used for cultural reproduction (Dale, 2008) and first generation less educated marriage migrants like Saba’s mother continue the enforcement of traditional masculine and feminine roles across subsequent migrant generations (Charsley, 2013). Saba’s bicultural identity and education means she is distancing herself from cultural norms and feels that she wants to work and not be resigned to the traditional gender norm of cooking and cleaning:

*“It’s okay when you’re little, it’s when you get older. They expect you to work and at like 18 they want you to get married and they think it should happen and if it doesn’t they think bad of you, and since I’ve got older they don’t talk to me because I don’t do what my mum says, like not go out to work, that’s why we don’t talk much, but obviously I care about her and respect them, but I don’t talk to them... with dad I tell him everything, but my mum no. I think dad is more soft and he understands why I need to ask him and work and don’t do anything at home, just cook and clean and mum’s more like get married, your husband will do it for you”* (Saba RVSG).

SR: So which view do you go with then?

*“The view that I need to work, I can’t just stay at home and let him do everything”* (Saba RVSG).

SR: And where did that come from?

*“The way I was...education and everything, if people aren’t educated, they don’t think it’s important”* (Saba RVSG).

Saba appears to be comfortable with her father, a 1.5G migrant who understands her views, possibly because he was raised and educated in England and there is less of an acculturation gap between them. It can be seen that as he is more educated than his wife, Saba’s father has



different notions about the role of women and appears to be more open to Saba working and not following traditional gender norms (Ali et al. 2011).

The form of communication that her grandparents and others in the community take, that of gossip, bullying and judgement which may be perceived as an attempt to control her actions has pushed her away from them and in some cases her communication with them has stopped completely. They do not speak to her and she discusses that she has respect for her elders, and it is possibly this respect that prevents her from arguing with them. This may also be because she does not feel that she has bargaining power because of her age and her gender, whereas 30 year old Anisha was more confident about challenging her elders.

Therefore Saba attempts to take back the power that elders have over her by continuing to wear her preferred clothing and because she does not have a voice against them, she simply stops communicating with them. This is important because in the event of a flood, Saba may not want to communicate about flood risk with her elders or members of the community because of their negative attitude towards her.

#### **6.5.2 Girls must be seen and not heard**

Furthermore, because of the social reproduction of gender norms, adolescent women may not be listened to even if they do attempt to communicate about flood risk to their elders. This may be explored in the case of 18 year old Jabeen who was born in England, whilst her parents were born in Pakistan but migrated to England when they were quite young. Jabeen visits her grandparents after school because it is a cultural norm to have regular visits with relatives and stay in close proximity (Ghuman, 2003). She feels that this 'role' is something that her grandparents expect her to do, and she does it otherwise she gets verbal 'abuse' from them:

*"No generally follow the rules. it was more like you come home from school, you do your work and then we have to be at grandma's house about sixish, we like to get there at eightish and go early. To see family or cooking, I guess it is just something you have to do as part of our role I guess, to go and see our grandparents and see how they are...upbringing I guess, because our family is like, see how they are and what is happening with them. It is just a family thing so you have to do it...it is more we get desperate to go (home), so if you follow it you don't get abuse, if you don't then...." (Jabeen RVSG).*

Therefore, despite these regular visits Jabeen does not have a close relationship with her grandparents due to the way they communicate with her. She talks about her clothing issues. She respects her religion and thus doesn't wear revealing or figure hugging clothing, but the comments she receives from her grandparents are quite severe as they attempt to guilt her into being a 'good girl' and wearing traditional clothing instead of 'betraying her religion':

*“Ever since I was small I’ve been wearing them ...it is more like, for me it is more like a figure hugging I don’t wear it, if jeans are baggy it’s me, I don’t wear tight clothes, it is as simple as that, ....but I think more like that than the whole you have to wear salwar kameez, I’m more on my mum’s thinking than my granddad. Yes, because if I am with mum, and we’re wearing something my mum won’t say anything but with granddad it is a case you have to wear salwar kameez, you are doing wrong in my eyes and it is wrong and you are betraying your religion and stuff like that” (Jabeen RVSG).*

It is this reaction, and forceful, controlling attitude that leads her to feel closer to her parents because she feels they understand her better, and defend her against her grandparents’ dated views on following cultural beliefs, honour and izzat: *“The thing is that they are not strict, my granddad is, but my mum, she knows, like my mum has got a way of thinking then if mum says something she is generally quite sweet with it and anything in general they are both like mum is not as strict as dad, mum is not saying it because its cultural, my grandparents are more backwards and ‘cultural’, ‘izzat’. Like dad covers for us, sometimes when I go to my friend’s house, he (grandad) doesn’t like it, ‘you shouldn’t have too much friends, or be hanging out with them’, and dad is like it’s ok, I just told them you were studying. Mum and dad cover for us... I know our parents are more open minded and give a bit more respect...ermm my dad has been brought up here so he knows more about this country than my mum does, so we always got on normally, always got on with them” (Jabeen RVSG).*

In discussing her grandparents’ attitude towards ‘having too many friends’ or ‘hanging out’ with them, Jabeen further emphasises the gender norms in her house. If she does go out, her brother accompanies her, indicating that as with Samina, Jabeen is not expected to go out without a chaperone, and Jabeen questions this behaviour, especially as she is older than him: *“I don’t know why, I don’t know how I would be safer, because he is younger, but you were happy (for him) to go with me to places because you think he could protect me?” (Jabeen RVSG).* This ‘protection’ may be related back to the concept of honour and the need to prevent women from shaming the family.

It appears that like Saba, Jabeen may not have a voice against her grandparents, who believe that girls should be seen but not heard, but has better communication with her mum (1.5G) and Dad (1.75G) possibly because the acculturation gap between them is smaller in comparison to the gap between her and her grandparents. Jabeen feels that she can talk to her parents because they respect her, whilst her grandparents do not value the voice of women:

*“It’s mostly grandma, who says be good, girls need to be seen and not heard, that same old is mostly enforced from my granddad not my mum” (Jabeen RVSG).*

Jabeen’s sister Hafza also talks about their granddad’s attitude to being in control and how he is dismissive of them because of their age, and social norms relating to the position of

younger women in the household, and therefore does not value their opinions: “Grandad says I’m older, I know better!” (Hafza RVSG). Thus the intersection between gender and age is important; they appear to have no voice or power with their grandparents because the elders always believe they are right and are in a hierarchical position of power. Thus elders have a top-down form of communication and do not listen to adolescent women:

*“Because they are older and they don’t think the same way, they don’t see things from the same perspective”* (Hafza RVSG)

S.R: Ok, and what would you say is an example of that?

*“I’m right, you’re wrong, I’m big you’re small, I’m right you’re wrong. I think granddad thinks he’s right on everything”* (Hafza RVSG)

### 6.5.3 Grandma’s gender norms

This was also evident in the case of 18 year old Zubeida who was born in England and is a second generation Pakistani migrant. Zubeida lives with her mother and brothers, and her paternal grandmother often visits from Pakistan staying for periods up to 6 months. Zubeida is studying for her A-levels and wants to attend university to study biomedical science. Zubeida feels that there is gender inequality in her household, where she does not feel as valued as the men. In her opinion, gender norms are enforced by elders, particularly her grandmother, whilst her mother followed suit, although to a lesser extent. This can be related to an interesting point that both Jabeen and Saba raised; that it is not only men but also women who enforce patriarchal control and traditional gender norms in England:

*“I don’t think that my mum does it anymore because her mother in law did it, like they don’t value women as much and I get really wound up. I really don’t like it and I have a full argument like it’s not fair and stuff and that we’re just as good, but now it’s normal, like my older brother, he isn’t told to do the housework or anything, I do it because I’m a girl but ... so now he can’t make tea for himself, he’s 19, he will sit there and starve but can’t make a cup of tea, whereas my younger brother I had more influence on him so I’m like pick up this, do the dishes, he cleans up and he’ll make a meal, he can make a proper meal for himself so, but my older brother won’t move, that sort of difference I will say to my grandma I feel like now, I said when I have my family, I’m going to make them do equal work, but why doesn’t he come home and do it and they go, ‘it’s the way’, well not necessarily you find Asian girls have education and jobs but why when we come home we still have to do the housework, at that time girls couldn’t get educated, that changed why not this? I don’t know. Maybe it’s just like differences between boys and girls, but ...”* (Zubeida RVSG).

Zubeida clearly feels strongly about these traditional beliefs, and argues with her mother that times have changed from when women couldn’t have an education or get jobs and now when those opportunities are available, why have there still been no changes in the role of

men and women in the household? In essence, Zubeida is arguing against the social reproduction of traditional gender norms from Pakistan being implemented in a country where women have greater equality and freedom. This indicates that there is an acculturation gap between her and her grandmother and to a lesser extent between her and her mother.

Zubeida identified the opportunities outside the household. Her education provided her with the desire for a career and this gave her power and a voice outside the home because those factors were in her control. Yet her power is restricted in the home not by a male, but by the cultural beliefs of the female head of the household, who advocates gender inequality because 'it's the way'. An older female has control in the home, but Zubeida does not have a voice against her grandmother because she is bounded by her lack of bargaining power because of her gender and age, and because the cultural norm is to respect elders. In contrast to Anisha's argument that it was her education which gave her a voice, and not her age, in the case of Zubeida, she did not have a voice because of her age, despite her education. Thus age does matter because it means adolescent women are bounded. As Agarwal (1997) argues, assertiveness may be tolerated in older woman rather than younger women and the social inequalities where older women have more of a say than younger women may be incontestable social norms as they cannot be bargained over.

This is further supported by Zubeida's views on respecting her elders, which she was taught by her parents as part of the social reproduction of cultural beliefs: *"My parents brought me up to be like ...whatever happens, you respect them, your elders they can say anything to you, but sometimes it's like ... especially if my grandma says something that I won't agree to, if I don't feel the same about, I would like talk to her about it and then I would stop if I know I'm getting too annoyed, I don't want to disrespect her, and say something really bad. If it's at school I would have a proper argument and debate but, sometimes you've just got to accept your elders it's your way. And it's difficult to make her understand, she always thinks she's right, so it's easier to say OK than argue"* (Zubeida RVSG).

Thus similar to Jabeen and Hafza's grandparents, Zubeida's grandmother also thinks she is always right and does not take advice from Zubeida. This further supports Agarwal's (1997) arguments that older females may be favoured when making decisions because they have more of a voice in the home, unlike Zubeida who does not have a voice against her grandmother, especially because she does not value her opinion: *"Even my grandma... she'll listen to me but she won't take any of it in"* (Zubeida RVSG).

These findings are important in the context of this research, because Saba, Jabeen, Hafza and Zubeida are all adolescent women and they argue that they are not listened to by their grandparents. They do not have a voice in their home and the voices of men are more valued. If this is related to receiving a flood warning, which may be in English, older first

generation migrants may not understand the warning due to their inability to speak English because they maintained a separated acculturation strategy. Thus adolescent women may have the education and knowledge in terms of understanding and responding to flood risk, but they may not be listened to by their elders because of their gender and their age. It may also not be culturally acceptable for these women to talk about flood risk in their community because of social norms which dictate the expected behaviour of women, such as not going out with friends or being seen in the community. Instead the opinions and actions of men in the home may be more valued, even though the research indicates that women may be more interested in protecting the home whilst men have been taught to sit and be waited on.

Thus the research indicates that there is gender inequality in the home, adolescent women do not have a voice against their grandparents and this means that in a flood situation there may be a mismatch in who has knowledge and who has the power to make a decision, especially if elders believe they are always right. In contrast to listening to older, educated women when making decisions, elders may not take information seriously if it comes from a young woman because they do not value her knowledge. This is explored further in Chapter 8.

#### **6.5.4 Parents over grandparents**

Furthermore, although elders do not listen to adolescent women, adolescent women may also have a negative attitude towards listening to grandparents. Saba and Zubeida discussed the respect they have for their grandparents because they don't raise their voice or argue against them, but in essence these women don't respect the gendered views of their grandparents and limit their communication with them. Jabeen visits her grandparents daily but feels this is an obligation, and does not want to listen to the lectures she receives on izzat and honour.

These communication relationships are reflected in how adolescent women make decisions in the home. Zubeida discusses how she has to respect her grandmother because of her age, and how this relates to asking her grandmother's opinion when making decisions. Although she only asks her grandmother out of politeness, thus asking her opinions may be seen as a superficial gesture to keep the peace: *"Yes, I would probably ask my grandma, I think it's just polite to ask her so she doesn't feel left out, obviously they're older than you and you have to respect them...My mum is like we will ask her, let her know so that she doesn't think that we're not talking to her at all, because I think elders think 'oh they don't ask us', I don't know what's the word for it, I don't ignore her, she's being involved but ..."* (Zubeida RVSG).

This is further explored when Zubeida discusses that she takes her grandmother's advice because she is older and more experienced: *"My grandma, I will always listen to her because*

*obviously she knows more, she's older, she more experienced"* (Zubeida RVSG). Yet Zubeida contradicts herself by admitting that she would actually take her mum's advice rather than her grandmother's because her mum would be more aware of the issues Zubeida faces: *"I think my grandma always helps me but because she's not ... well because she lives in Pakistan she doesn't really know how things work here. I think my mum has a biggest say. I think my grandma thinks she has, but it's my mum, they have to understand the difference in cultures, it's just not the same thing in Pakistan as it is over here. Yes, with my grandma, I will always listen to her because obviously she knows more, she's older, she more experienced, but I think I would go to my mum more for advice because she understands it from both perspectives, if there's something different from living back home. It depends on the situation...I mean if it was something like clothes, shall I wear this or that, she would say, and I'd be like OK, ... but if it's something like making a decision about where I have to go or what I have to do at uni, she doesn't understand that... whereas my mum will, so I'll ask her, after she'll say well OK"* (Zubeida RVSG).

This can be related back to the acculturation process and grandparents maintaining a separated identity. Thus due to the acculturation gap, they are unable to advise their grandchildren on issues relating to the British culture or education system because they do not have this knowledge. This means that second generation migrants may respect their grandparents but are more reliant on their parents who they feel understand their issues better and can provide advice on issues such as a university education, whilst grandparents would be asked for advice on clothing, because their experiences abroad are not seen to be relevant in managing issues in England. This devaluation of knowledge from abroad was also highlighted by older women who believed their parents could not advise on issues in England because their knowledge was not relevant.

Furthermore, it appears that where grandparents may not listen to adolescent women, parents did take their advice, and this further encouraged their communication relationship. Zubeida has a voice in her home when talking to her mother who values her advice: *"Yes, my mum does because I help her with her college course that she's starting now I have helped her with that, so my mum definitely takes my advice"* (Zubeida RVSG). Thus adolescent women may not be listened to by their grandparents but they do have a voice with their parents. In the context of this research, this may indicate that parents may take the advice of their adolescent daughter in a flood, and vice versa, but adolescent women may not listen to their grandparents because as with older women, they may feel that they do not have the knowledge to advise on issues in England and because of their controlling form of communication, adolescent women limit their daily contact and communication with them (Figure 6.02). This is explored further in Chapters 7 and 8.

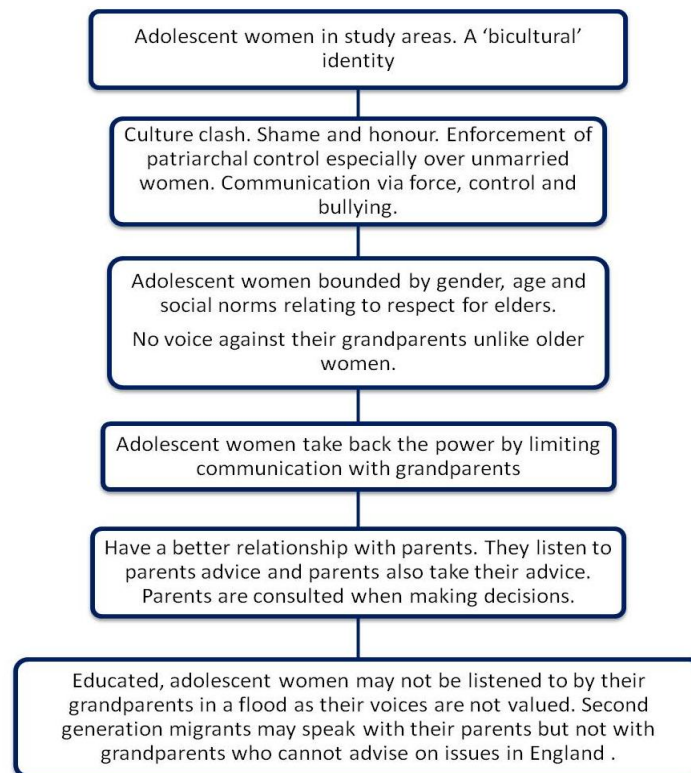


Figure 6.02 Adolescent women challenged patriarchal control by limiting communication because they did not have a voice against their grandparents.

The research indicates that adolescent and older married women with a bicultural identity may be judged by society for their decisions, clothing and lifestyle, but they have differing bargaining power to address the inequalities they face. It appears that the link between recognising cultural norms and gender inequality and having a voice to change them is age, marital status and education. Anisha and Noreen were older, educated in Britain and were married and thus had the power to make changes in their own home and lifestyle to address the unequal gender and cultural norms they faced. They moved away from the ethnic community in terms of following cultural norms and limiting communication with the controlling extended family network.

Where Saba, Zubeida Jabeen and Hafza faced inequalities and attempts to be controlled, they did not have a voice, maybe because they lived in their parents' home and had to obey their elders; Zubeida recognised that she would make changes to cultural norms when she raised a family herself. It may also be because they were less educated in terms of not attending university. Thus adolescent women may have less of a voice than married, older women and grandmothers; Agarwal (1997) discussed that social norms affect bargaining power and are mediated by marital status, thus married women may have greater bargaining power than unmarried woman. Additionally, Wilson (2006) highlighted that izzat is the responsibility of parents, therefore younger, unmarried women may have less bargaining

power than married women because there is a greater responsibility to control them to protect the family honour.

## **6.6 Summary**

The existing literature highlighted that different cultures have different views on the type of risk they worry about (Pidgeon et al. 1992), and in this research first generation migrants were not worried about flood risk in England. The discussion about flooding revealed an insight into the notions of risk, relationships, interactions, feelings and behaviour patterns amongst South Asian migrants in this research, which were understood in the context of the acculturation theory (Berry, 1997) and bargaining power within bargaining theory (Agarwal, 1997). This insight may in turn provide a greater understanding of how South Asian migrants and specifically migrant generations and migrant women understand flood risk and respond to it. This may include whether there is intergenerational communication of previous flood experiences especially when it is evident that there is limited communication between migrant generations.

The use of the acculturation theory and acculturation gap to frame the research findings allowed a greater understanding of the communication patterns and intergenerational conflict within South Asian migrant households in the research, especially in relation to gender norms and patriarchal control.

The majority of first generation South Asian migrants in this research had a separated identity. They valued and fought to maintain their cultural traditions, whilst resisting integration into British society. Thus they feared that the acculturation process would lead to women becoming westernised and this threatened their honour. This was a greater risk than flooding and first generation migrants addressed it by communicating via control. This revealed the understanding of risk amongst South Asian migrants in the study locations and importantly, how intergenerational communication was influenced through management of this risk.

Patriarchal practices were enforced which involved gendered and socially constructed norms that determined the behaviour of women. Women did not have a voice in the home and decisions were made by men because they held the power. Communication flowed from top to bottom. The women in this study, whose integration into British society was controlled, had no bargaining power and accepted the gender norms and constraints, possibly due to the hierarchical position of men being seen as an uncontestable norm.

The research also found that first (1.5G, 1.75G) and second generation migrants had a bicultural identity where they attempted to find the balance between maintaining their traditional beliefs and being a British Asian. The acculturation gap led to a culture clash and



conflict between migrant generations as they fought for their new identity and distanced themselves from following certain cultural practices (Farver et al. 2002). Similar to the findings of Renzaho et al. (2011), the research found that this distance was further enhanced by the attempts of first generation migrants to control the behaviour of women to prevent them from bringing further shame to the family. The research found that intergenerational communication subsequently involved judgement and gossip in order to control women, especially because first generation migrants felt that their children did not listen to them.

The research revealed that as a consequence of the enforcement of patriarchal control, and the forceful nature of this communication, wider power issues were evident within households. As part of acculturation, their integration in the wider British social network and their education in England gave first and second generation migrant, married women the power to oppose the gender norms and cultural restrictions. They challenged and adapted cultural norms in order to maintain their bicultural identity and negated the power of judgemental elders by limiting their communication with them. Furthermore, because of the acculturation gap, second generation migrants did not rely on elders for advice on issues in England because they would be unable to relate to them, thus they devalued traditional experience and knowledge from abroad because it was believed to be irrelevant. Instead they would seek parent's advice on cultural issues such as relationships, cooking or sewing, which were not seen to change through migration. This indicated a loss of power amongst first generation migrants because they were no longer in a position to advise their children, who believed their elders' traditional experiences, beliefs and knowledge to be irrelevant in England. Instead, women had greater bargaining power and a stronger voice because they were educated (Sen, 1985, Ali et al. 2011) and this led to a role reversal where knowledge flowed from bottom up, child to parent.

The research also indicated that adolescent women distanced themselves from their elders because of patriarchal control. Elders had a bullying, forceful attitude towards imposing cultural beliefs on young women who they perceived as becoming westernised. Thus communication was top down, dictating what women were allowed to do, and due to gender norms, and the intersection of gender and age, the voices of these women were not valued. Second generation adolescent women could not challenge their elders as older women had because they were bounded by their gender, age, and marital status and due to norms relating to respect for elders, which limited their bargaining power. Hence they also negated the power of their elders by limiting communication, whilst having a closer relationship with their parents.

This highlights how bargaining power may be used to understand how social and gender norms influence the extent to which migrant women have a voice in the home, and how this

may change across migrant generations as part of the acculturation process and opportunities for 'outside earning'; first and second generation migrants whose behaviour and 'outside earning' (Sen, 1985) was tightly controlled had limited bargaining power and no voice in the home. As part of acculturation, having an 'integrated', bicultural identity led to 'outside earning', especially through their education and increased bargaining power amongst some first (1.5G, 1.75G) and second generation women who had a voice in the home. This bargaining power was lower amongst second generation adolescent women because although they experienced 'outside earning' through their bicultural identity and education, they were bounded by their age and gender and did not have a voice in the home with elders but did with their parents.

The discussion about flooding in this research was seen to reveal how first generation South Asian migrants understand risk. It also provided an insight into how these perceptions of risk influenced intergenerational communication in the home, which centred on control and power and resulted in gender inequality. There was also evidence of wider power structures as first and second generation migrants challenged patriarchal control, and this further influenced intergenerational communication through not only limiting it but affecting power roles. The research indicated that information also flowed from child to parent, because experience and the related traditional knowledge from abroad was devalued by acculturated first (1.5G, 1.75G) and second generation migrants.

It appears that the tension between generations arose because of their different understandings of risk relating to the westernisation of women, and this was related to second generation migrants being more integrated than their parents in British society, as was understood through the acculturation theory. This may explain why second generation migrants had a better relationship with their parents; because there was a smaller acculturation gap and thus similar tolerant attitudes to the adherence to and enforcement of gender norms. This highlights that although different cultures may have different views on the type of risk they worry about (Pidgeon et al. 1992), in the context of migration and as a result of the acculturation gap, there are also differences within cultures as later South Asian migrant generations had different risk perceptions to first generation migrants.

These findings suggest that the limited communication between generations that was seen to be a consequence of the acculturation gap may influence the intergenerational communication of flood experiences. Furthermore, if experience abroad and traditional knowledge is devalued in the context of England amongst second generation migrants, then this attitude may also extend to the response to both flood experiences and indigenous flood knowledge from abroad. Thus subsequent migrant generations may not have the same flood

risk perceptions and response to flood risk as first generation migrants. This is discussed further in Chapter 7.

The existing literature also indicated that gender norms in the developing world have an impact on how women are impacted in a disaster (Bradshaw, 2013). Similarly, this research indicated that shame and izzat may have changed but are still present in the migration context and lead to the restricted behaviour of women in the study locations in England. This indicates that the issues documented in South Asia may also apply in England, with gender norms and limited bargaining power potentially impacting if and how women can respond to flood risk. If women are judged for their actions, and they limit communication, they may not want to communicate about flood risk to their ethnic community. Yet despite being judged for her behaviour, a woman's education gives her a voice, thus she may be listened to in a flood, although the voice of a man may be stronger against the voice of an uneducated woman. If educated adolescent women attempt to talk to elders about response to a flood, their voice may not be valued despite knowing English and having the ability to identify suitable actions. This indicates a potential mismatch in who may have knowledge (adolescent women) and who has the power to make decisions (elders). These issues will be explored in Chapter 8.

# **Chapter 7: Migrant generations: the devaluation of flood experience and knowledge**

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## **7.1 Introduction**

The research revealed that first generation South Asian migrants had low flood risk perceptions and a negative attitude to response to flood risk in England as a consequence of their previous flood experiences abroad. It was argued that communication of these experiences would influence the risk perceptions of second generation migrants in England, and this communication was framed in this research by the social network contagion theory (Scherer & Cho, 2003). This theory emphasises that the social linkages in communities are important in focusing risk perceptions, and individuals adopt the attitude of others in their social network with who they communicate (Scherer & Cho, 2003). Thus the limited intergenerational communication as a result of patriarchal control amongst South Asian migrants in this research (Chapter 6) may have been a constraining factor in the communication of flood experience and transmission of risk perceptions.

This chapter will discuss how there was not only inter but also intra generational communication within and outside the ethnic community about flood experiences and indigenous flood knowledge in England and abroad. It will highlight the differences in how these narratives influenced the risk perceptions and response to flood risk amongst second generation migrants. This will be discussed in the context of the findings of this research relating to the devaluation of experience and knowledge from abroad amongst second generation migrants as a result of the acculturation gap (Choi et al. 2008). These findings are important in understanding the notions of flood risk amongst South Asian migrant generations in the study locations.

## **7.2 The communication of flood experience**

The existing literature discussed the weak intergenerational transmission of risk preferences amongst migrant generations (Bonin et al. 2010). This research explored the flood risk perceptions of first generation migrants in England (Chapter 5) to identify whether these perceptions were transmitted across migrant generations through intergenerational communication. This research found that first generation migrants felt safe in England. They did not perceive the floods abroad to be a risk to them in England because the extreme events could not be imagined. Furthermore, they did not believe that floods in England were

a threat because they were perceived to be more controllable, less severe, and of a lower magnitude than floods abroad. There was also reliance on the government for protection and the combination of these factors led to lower flood risk perceptions amongst first generation migrants and a negative attitude towards response to flood risk in England.

This research argued that communication of flood experiences from abroad would negatively influence the flood risk perceptions of subsequent migrant generations in England (Scherer & Cho, 2003). This was based on the existing literature and specifically the social network contagion theory which stated that through communication, an individual's perceptions are influenced by the perceptions of individuals in their social network (Scherer & Cho, 2003). Furthermore, Ghuman (2003) highlighted that first generation migrants often have strong social networks consisting of close contact with kin and involvement in daily activities. This may encourage intergenerational communication of flood experience and transmission of risk perceptions.

Yet Scherer & Cho (2003) also highlighted that if individuals are not in close contact, they are less likely to share similar attitudes due to limited communication. This research found that due to the acculturation process and enforcement of patriarchal control, second generation migrants distanced themselves from cultural practices such as family interference and gossip, and limited communication with judgemental elders within their ethnic community (Chapter 6). This research argued that in the context of the social network contagion theory (Scherer & Cho, 2003), the limited communication between generations may influence the communication of flood experiences and whether individuals have shared flood risk perceptions.

The research indicated that because second generation migrants had a bicultural not assimilated identity, communication within their ethnic community was limited but still occurred, especially if related to wider issues than the enforcement of cultural and gender norms. Thus they experienced intergenerational communication within their ethnic community about flood experiences abroad. Furthermore, as a consequence of their bicultural identity, second generation migrants were involved in both their ethnic and wider community. Thus they also experienced intragenerational communication within (intraethnic) and outside (interethnic) their ethnic community about flood experiences in England.

In terms of how this inter and intra generational communication may have influenced flood risk perceptions, this was explored in the quantitative data which looked at individual's attitudes to flood risk against whether their relatives had an experience of flooding anywhere (abroad or England). The data showed that 68% (52/76) of all participants (migrants and non migrants) who knew relatives who had flooded were worried about flooding themselves

(Appendix G). The difference in those who knew relatives with flood experience and those who did not was significant. This indicated that if individuals were embedded in their community, including those with a bicultural identity, they were more likely to talk to relatives, which may have informed their perceptions of flood risk.

When this was explored further within the qualitative research, the data indicated that although there was inter and intra generational communication of flood experiences, the location of the previous experience, whether it was abroad or in England was important in influencing the flood risk perceptions of second generation migrants and their response to flood risk. This is discussed in detail in this section.

### **7.2.1 Intergenerational flood narratives**

This research found that the daily communication patterns between migrant generations were important in understanding the intergenerational communication of flood experiences from abroad. It has been discussed that first generation migrants perceived the westernisation of women to be a risk, and thus their daily communication centred on controlling women and the continuation of traditional beliefs. This threat was their responsibility to manage because elders were seen to be responsible for controlling the actions of women. This was an issue that was important to first generation migrants and therefore these attitudes were seen to be communicated within the ethnic community and from parent to child, leading to similar risk perceptions within the social networks of ethnic communities (Bonin et al. 2010. Dohmen et al. 2006, Scherer & Cho, 2003).

This research argues that because first generation migrants with flood experience abroad were not worried about the floods abroad occurring in England, and they did not perceive flooding to be a risk in England, they did not feel it necessary to communicate their risk perceptions to subsequent migrant generations. Furthermore, first generation migrants may not have felt the need to educate their children on how to respond to flood risk in England because they placed the responsibility of flood risk management on the government. This was evident in the research as although there was intergenerational communication of previous flood experiences in the form of narratives, this communication occurred rarely when triggered by events in the media.

This was discussed by Saba who spoke earlier about the conflict with her mother and how this resulted in limited communication, although it appeared that there was still communication about wider issues. Saba spoke about how her mother and her father recalled flooding in their villages when watching the news about flood events in Pakistan:

*“That time it happened in Pakistan. She said they were flooded, like a big flood. Yes, she mentioned that her street got flooded, because they were living beside the dam. She just mentioned it briefly, I think it was upsetting but she didn’t say, she said*

*what was on the news was serious and she was worried about her family...about how many were affected and that it happened in their own home, when she was little and the yard was a bit flooded and they put stones to walk over it and dad said it happened to his house too” (Saba RVSG).*

It appears that her parents did not pursue the topic possibly because they did not see the floods abroad as a risk in England: *“No-one actually mentioned it ...they know about Pakistan, but they don’t think it would actually happen here” (Saba RVSG).*

Additionally migrant families were seen to keep in close contact with relatives abroad. Thus there was communication about flood events and discussion of the damage caused: *“My mum’s dad, he experienced flooding in his village... like the way he talked, it was quite a scary time for them, it’s not like in the UK where the water resides very quickly, but they spent weeks on rooftops and stuff like that” (Manpreet PBSG).* Rashida also spoke about how floods affected her family in Pakistan: *“Cattle were found dead and I don’t think anybody lost their lives or anything but they lost all their belongings, so it was quite a big one ... we only know because the family are in regular contact” (Rashida RVSG).*

### **7.2.2 Inter and Intra generational flood narratives**

Furthermore, although some first generation migrants with flood experience abroad had not perceived flooding to be a risk in England, there were both first and second generation migrants who had experienced flooding in England. This was discussed in Chapter 5, where it was highlighted that the severity of the flood event increased flood risk perceptions and individuals were worried about flooding and had increased awareness of the flood risk in their community. This led to a positive response to flood risk in terms of taking protective action.

This highlights the importance of understanding the notions of risk amongst South Asian migrants; first generation migrants did not perceive flooding to be a risk in England, and thus the issue was discussed rarely. Instead they communicated via control and force to manage the greater risk, the loss of identity amongst migrant generations and in particular the westernisation of women. In contrast, first and second generation South Asian migrants with flood experience in England did perceive it to be a risk, and subsequently they communicated their concerns to their ethnic social network including family and friends.

The close knit structure of the Pakistani community meant that flooding experiences were shared and discussed within neighbourhoods. Saima spoke about hearing of flooding in her local area on the ‘grapevine’ because of the extent of damage and loss of valuables, and especially because a lack of insurance highlighted the economic difficulties that individuals faced. This meant that there was much gossip about the flood experiences of others in the community: *“Where my mum used to live before, Queen Street, cellar houses and they were*

*flooded, all the cellars were flooded and they lost all their belongings and they made them into kitchens and stuff like that, you know, and every single thing was destroyed really badly, every single thing was destroyed and the really really sad thing was they didn't have house insurance, I think that was the one biggest no nos you should always get your house insurance, and if they didn't, if you had to dip for everything into your own pocket, everybody tells that story"* (Saima RVSG). Saima had earlier spoken about the gossip in her community over the actions of individuals and it appears that this gossip also extended to flood experiences; thus gossip may be seen to facilitate intergenerational communication of flood experiences in England.

Rubina also spoke about the intragenerational communication within her ethnic community. One of her friends in the local area had experienced flooding when the River Tame burst its banks. Rubina recalled hearing about the impact to the property and the destruction caused: *"I have seen my friends' faces, it was really bad. That's one thing... people have lost everything...I've seen the pictures and how upsetting it was for everybody, and how much they lost and their house and everything from floorboards... and everything just got ruined"* (Rubina PBFG). Intragenerational communication outside of the ethnic community was seen in the case of Debbie who spoke about the impact to her Pakistani friend's house caused by floodwater: *"My friend, she was distraught, her house was high up in water, you know, she's got nothing. After it had all been dried out, she had to wait for the insurance, but she still, she couldn't have a shower cos her floor was damaged...I couldn't believe it when I saw how high the water marks were on her walls"* (Debbie PBNM).

The research indicated that in relation to the social network contagion theory, because second generation migrants has a bicultural identity, and were involved in both their ethnic and wider community networks, they heard narratives about flood experiences both in England and abroad, which may have influenced their flood risk perceptions (Scherer & Cho, 2003).

### **7.2.3 The influence on flood risk perceptions**

This research argued that the communication of flood experiences abroad would decrease the flood risk perceptions of second generation migrants in England. It emerged that second generation migrants who heard about flood experiences abroad felt sympathy for those suffering due to the damage and loss experienced: *"You feel sorry for them. They're not that rich, you know, they're just average and they just have enough money to look after themselves and like if their ... you know, animals and that get washed away in the water, it's hard because they just earn enough to feed themselves and their family"* (Maria, RVSG). Anisha also echoed this attitude: *"I felt quite sad for them because it is all the effort and hard work really ...and that is the only source of income that they have"* (Anisha RVFG).



Feeling sympathy towards those who had experienced flooding abroad was the extent of their emotions. The research found that there was weak intergenerational transmission of flood risk perceptions (Bonin, 2010); second generation migrants may have recognised the differences in flooding between England and abroad in terms of the extent of damage caused, but there was no evidence that second generation migrants' had lower flood risk perceptions or a negative attitude to response to flood risk in England as a consequence of intergenerational communication about flood experiences abroad.

Their disinterest may have been because flooding abroad may not have been seen as a risk in England due to the distance away from the hazard. Kellens et al. (2011) explored perception of flood risk along the Belgian coast. They highlighted that correlations between hazard proximity and perceived risk have been found for natural hazards such as floods. Their research found that people who are further away from hazard sources exhibit lower levels of perceived risk (Kellens et al. 2011).

This was evident in this research; Saima talked about hearing narratives of flooding abroad and how she recognised that the extent of destruction was greater, especially because it was difficult for a less developed country to recover from the impacts of floods. However, the infrequent narratives of flood experiences abroad were simply seen to be stories which generated sympathy, but no further thought especially because they were about a risk that was not perceived to be a threat in England. Thus as with first generation migrants who could not relate to the flood risk in England because of their flood experience abroad, second generation migrants could not relate to the floods abroad as an issue that affected them because they were integrated into British society; the floods were seen as something that occurred 'over there', resulting in an element of detachment about the flood risk, and no influence on second generation migrant's perceptions of flood risk in England.

Thus in relation to the social network contagion theory, there may have been communication about flood experiences abroad, but because the experience was abroad, second generation migrants felt disconnected from it. Their bicultural identity and involvement in British society meant that they did not perceive the floods abroad as an issue that was relevant to them. Thus despite the communication of flood experiences from abroad, there was no transmission of perceptions of flood risk in England from first to second generation migrants.

In contrast, Saima spoke about seeing the flood impacts to her family in England and this experience appeared to resonate more because it was 'over here':

*"I have seen other people who have been flooded, everything was destroyed and a lot of valuable things destroyed"* (Saima RVSG).

SR: And what about flooding in Pakistan, how did that.....

*"I didn't feel it that much, this is going to sound bad, but not as much here, there it is much worse, it is a million times worse because so many houses were destroyed, so many ... and it's not a rich country (inaudible) that did make me sad, you know, but apart from that I didn't give it much thought"* (Saima RVSG).

SR: So you felt it more here?

*"Here, because here I knew about it, I could see, I heard about it, people telling, you know, about flooding, but because my family wasn't affected by it in Pakistan, but we knew people who were, so it was like third party, I felt sorry for them but I wasn't that concerned"* (Saima RVSG).

It appears that vicarious experience, which refers to social communication; hearing about hazard impacts affecting friends, relatives or neighbours (Kellens et al. 2011) in the study locations in England increased Saima's flood risk perceptions, and this may be because the flood risk was in the local community, and closer to home than floods abroad (Kellens et al. 2011). This can be related to research by Tapsell & Tunstall (2008) which looked at how floods influenced perception of 'place'. "Place can be perceived as the surrounding locality or community. The relationship between people and place can be a very powerful one. People develop 'senses of place' which are infused with meaning and feeling, and thus identity and belonging" (Tapsell & Tunstall, 2008:134). Place may also be related to homes and dwellings, where people feel safe and secure. Floods have the power to transform a special dwelling place into one filled with mud and sewage. Tapsell & Tunstall (2008) discussed that individuals in their research felt that a flood experience was a violation as their homes were invaded and they were unable to protect them. They felt a loss in the sense of security in the local area and felt fear in their home, which had been contaminated by sewage and presented a hazard to their health. Similarly, in this research, participants spoke about their worry over further flooding in their home, their paranoia when it rained, their powerlessness and the recovery period involved to remove sewage and protect the health of their children (Chapter 5). Thus participants in this research may also be seen to discuss the impacts to 'place' in terms of the flood impact on their homes.

Second generation migrants in this research who spoke with members of their ethnic and wider community about their flood experiences may subsequently have felt a greater risk of being flooded than hearing about floods abroad. This may be because they visually confirmed the flood damage and it affected the homes of people they knew: *"Well nobody deserved it but when it is personal you know what I mean, when it encroaches onto your friends... it was sad"* (Jane PBNM) and this may have highlighted the increased flood risk to their 'sense of place' in their community, and importantly, in their country in contrast to abroad. This may be related to their bicultural identity; second generation migrants retained

their cultural beliefs, but living in England they felt detached from a flood experience abroad because it was not a threat to their home, whereas flooding in their community in England was a risk and resonated because it threatened their 'sense of place', where they belonged and which was part of their identity.

The increase in flood risk perception was discussed by Anisha who visited families in her community who had experienced flooding: *"I feel sympathetic towards people and for the things they have lost through the floods but I think it has just made me more aware because I went into some of the people's houses that were flooded. And if you look into their cellars where their appliances were they were all floating and the water was coming up.....one family had their washing down there, their washer and dryer and stuff and the washing was all floating, clothes, plastic baskets everywhere so seeing is believing, so now when floods do happen, you can feel a bit more like yeah they actually have lost everything and so you have more sympathy for them, more emotions"* (Anisha RVFG).

Thus in relation to the social network contagion theory (Scherer & Cho, 2003), in contrast to narratives of flood experience abroad, inter and intragenerational communication of flood experiences in England increased risk perceptions in terms of increasing concern and awareness of flood risk. This was because flooding impacted friends and family within the social network, the flooding occurred in the local area and individuals visually confirmed the damage that was caused.

#### **7.2.4 The response to flood risk**

These increased risk perceptions led individuals to prepare for future flooding themselves and this may be related to the research by Miceli (2008) which highlighted how previous experience increased risk perceptions and protective motivation. Protective motivation in this case was not due to direct experience but communication of experiences and thus vicarious experience is an important factor in protective motivation: "People are likely to consider actions with which they have had vicarious experience in reading or hearing about others' actions in response to a hazard. Such vicarious experience is frequently passed on by friends, relatives, neighbours and co-workers" (Perry & Lindell, 2004:55).

Existing research has discussed the greater potential of direct personal experience on affecting protective behaviour in comparison to vicarious experience. This is because attitudes based on direct experience are more accessible in memory. Personal experience increases protection motivation because it provides greater vividness, recall of relevant information, and lower levels of uncertainty (Terpstra et al. 2009). It was also argued that vicarious experience can affect people's protection motivation and hazard adjustment adoption in the same ways as direct experience. The difference is that vicarious experience is

not as vivid, easily recalled, or personally involving, thus it is not as likely to increase protection motivation (Terpstra et al. 2009).

This research suggests that although vicarious experience is not as likely to increase protection motivation as direct experience, vicarious experience in England had a greater impact on protection motivation than vicarious experience (intergenerational communication) about flooding abroad because it was seen to threaten individuals within the social network and community. This was evident in the case of Saima who spoke about how hearing about individuals in her community who had flood damage but no insurance emphasised the importance of having flood insurance in her home: *“When you hear somebody lost all their things and a lot of money was wasted you know, they had to put into their own pocket for everything, it was quite an eye-opener for me, you need to be insured and know what to do, what you going to do, can’t just say rain rain go away! Since knowing about the person I’m more aware of it”* (Saima RVSG).

Furthermore, in knowing people who flooded in the community and observing the damage to their homes and loss of irreplaceable belongings, individuals had a positive attitude towards response to flood warnings. As Saima emphasised: *“I would do it straightaway if the message is saying it is a problem, I actually would take precautions, it’s better than saying I wish I did this, because that lady there, all her valuables were lost, all her valuables, gold, jewellery, new clothes, even her daughter’s nappies, I think she had a couple of bags you know, food, the kitchen, settees, but all the food was ruined, everything was ruined”* (Saima RVSG). Tia saw photographs of flooding in her street and floodwaters in her cousin’s home. This visual confirmation increased her perception of flood risk and this worry led to a positive attitude towards flood warning response in a future flood event: *‘I just wouldn’t think it was anything that would affect me...but having seen the photos I would definitely take it much more seriously if I did get a flood warning, definitely. It has changed my mind in Tame Road, you know what, this is serious shit’* (Tia PBSG).

The research therefore found that in relation to the research by Bonin et al. (2010) and in the context of the social network contagion theory (Scherer & Cho, 2003), the communication of flood experiences from abroad resulted in weak intergenerational transmission of flood risk perceptions. As with the earlier findings of this research (Chapter 6), second generation migrants in England effectively devalued the flood experiences of first generation migrants abroad. They did not consider the narratives they heard to be anything but stories about another country, and this indifference was facilitated by the lack of prominence given to flood risk in England by first generation migrants and the subsequent limited communication of flood experiences. Thus despite hearing about flood experiences abroad, there was no influence on second generation migrants’ flood risk perceptions or response to flood risk in

England, and these findings may be attributed to the acculturation gap. This also indicates that the social network contagion theory (Scherer & Cho, 2003) relating to the transmission of risk perceptions through communication may not be relevant or applicable if the communication relates to experiences abroad because of the acculturation process and the devaluation of knowledge from abroad amongst acculturated second generation migrants.

In support of the social network contagion theory, inter and intra generational communication of flood experiences in England led to the transmission of flood risk perceptions which positively influenced protective motivation and response to flood risk amongst second generation migrants. The floods were seen to be a threat to what second generation migrants considered to be their home (Figure 7.0).

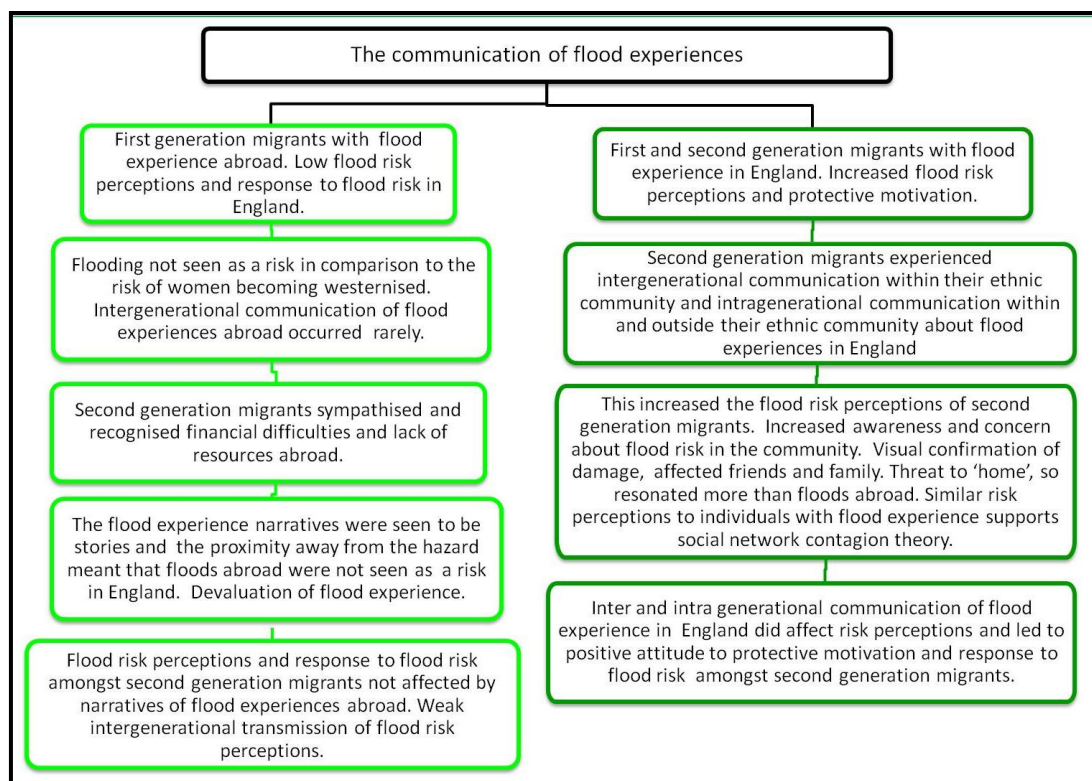


Figure 7.0 The contrast between intergenerational communication of flood experience in England and abroad and how this influenced the flood risk perceptions and response to flood risk amongst second generation migrants in the study locations.

### 7.3 Indigenous knowledge

This research found that as a consequence of the acculturation gap, second generation migrants devalued experience and knowledge from abroad because it was seen to be inapplicable in England (Nayar & Sandhu, 2006, McFadden et al. 2014) (Chapter 6). These findings were important as the insight into these communication patterns also provided an understanding of how traditional indigenous flood knowledge may have been communicated and received amongst South Asian migrant generations in the study locations. This is discussed in detail in this section.

#### 7.3.1 Soil mounds, medicines and food

First generation migrants spoke about how intergenerational communication abroad involved the transmission of indigenous knowledge relating to flood risk management approaches. This non technical knowledge related to making preparations prior to the monsoon season such as stockpiling food: *“They know which month the water will come in... people who live near the river buy enough food for a month. Because they know if a flood comes then they won’t be able to leave the house. The people who live in the mountains where the cars can’t get to, they take their food stocks before as well. They have camels which they use and load all the food and take it for the whole month”* (Masood PBFG).

There was also communication of knowledge relating to protecting property. This included the use of stone and soil mounds to keep floodwaters away. Masood spoke about how elders told him how to create mounds of soil to make a barrier between the floodwaters and his home: *“They told us about planning to save ourselves from flooding. Like when we put the sand so the water doesn’t go near the houses. They said to make mounds of soil, make a barrier and then the water won’t come inside, it will go back”* (Masood PBFG).

The research found that in some cases, indigenous knowledge from abroad was applied in England by first generation migrants. Jatin experienced flooding in South India, where he highlighted that the norm was to stockpile medicines in the home in case of illness during a flood because it was difficult to access healthcare. Jatin stated that he would follow the same principle in England because he believed the healthcare system in England was poor:

SR: Have you taken any other precautions to protect your home against flooding?

*Yes, if it came here, I think take precautions, maybe, if flood comes, you know, take medicine. I always keep my medicine with me...because here health department is very poor, and you have any injuries and you need to go to hospital then there’s trouble, so I have some medicine from India I keep with me. I think most of India, people always keep medicine in home. To prep for emergency, it’s very expensive to see the doctor, and sometimes they vomiting so people need to go to the hospital, that takes a long time, so they keep their medicine because they expect something*

*will happen in monsoon time because most of the time people are getting colds, fever, so people keep medicine at home all the time” (Jatin RVFG).*

Masood also discussed that if his home was at risk of flooding in England he would apply the management techniques that he had been taught abroad. He would protect his home using sandbags: *“I would fill the bags and put them in front of the house, the sandbags. That’s what we did in Pakistan, when the flooding happened we put the bags there. That would stop the water from coming in”* (Masood PBFG).

Although Masood felt he would need to protect his property in England, he had a strong reliance on the government to manage the flood risk in his community: *“Here you would still need to respond quickly to protect your property...when we talk we just say the government is here to help us. The government will support us. When the snow fell earlier they had already made preparations. They had gritted the roads. In Pakistan this wouldn’t happen, they would say we don’t have the resources, it’s too expensive”* (Masood PBFG).

Thus although first generation migrants in England may have applied their indigenous knowledge from abroad in terms of protecting their home, it appears that their reliance on the government to prepare for flood risk and manage the impacts of flooding limited the extent to which they took action themselves. Furthermore, there was no evidence of first generation migrants imparting indigenous flood knowledge from abroad to second generation migrants in England. This may be related to their low risk perceptions and more importantly reliance on the government to manage the flood risk; if they did not perceive flooding to be a risk and believed the government would protect them, they may not have felt it necessary to impart indigenous knowledge on flood risk management from abroad to their children in England.

### **7.3.2 Stupid old wives tales**

Interestingly, the research indicated that indigenous flood knowledge from abroad was not valued by second generation migrants. The existing literature discussed intergenerational communication patterns in South Asian households (Nayar & Sandhu, 2006). It was found that different forms of communication amongst different generations highlighted the contrast between tradition and modernity. First generation migrants were mostly illiterate and thus were found to have an oral mode of communication involving telling stories and narrating traditions and knowledge from their country of origin. In contrast second generation immigrants had an analytical mode of communication where the ability to read and write indicated the development of thought forms generated by modernity. This resulted in a culture clash with second generation migrants perceiving the communication of traditional knowledge to be irrelevant and dated in modern society.

Similarly, this research revealed that second generation migrants would not ask the advice of first generation migrants who had flood experience abroad. This was seen in the case of Jamal who argued that his father who had flood experience in Pakistan would only be able to tell him an ‘old story’ which would be irrelevant in England, thus he would not seek his advice: *“No I wouldn’t because in that case nobody can help really, you know, they can only tell you an old story, they can’t come and help you, there’s nothing that can be done, there’s a flood here, you’ve got to deal with it”* (Jamal RVFG).

In referring to the flood experience and indigenous flood knowledge from abroad as an ‘old story’, Jamal may actually be talking about the knowledge being traditional, which is inappropriate in the ‘modern’ environment he lives in now. This was emphasised by Tia who argued that she considered traditional flood knowledge in Jamaica to be ‘old wives tales’, which she appeared to ridicule. Thus she would only consider following the advice if it was logical:

*“Like if my dad came and said ‘in Jamaica when it was going to be flooding time we used to do this’, if it sounded logical then yes, but if it was really ridiculous, like my dad is a very logical man, he doesn’t do stupid old wives tales, you know eat a piece of ginger and spin around three times and it will stop the flood, you know my dad just doesn’t do superstition and I don’t either. So if it sounded logical yes I would do it, but not taking stupid dumb advice that wouldn’t work”* (Tia PBSG).

Rashida also argued that she would only follow flood advice from her mother which she believed was relevant in England: *“I would listen but at the end of the day I’d make my own decisions...there will be some point that you could apply to today, but maybe not all, so I’d certainly listen and take on board what they’re saying and apply what you need to”* (Rashida RVSG). These findings may be related to the research by McFadden et al. (2014) who found that Bangladeshi second generation migrants in England would not follow indigenous advice blindly. They weighed up the cultural advice relating to breastfeeding to determine if it was applicable in England and good enough to be followed in comparison to professional advice. Thus second generation migrants devalue indigenous flood knowledge from abroad because they perceive it to be cultural, traditional knowledge based in superstition and illiteracy which may work in a developing country but is not relevant in the modern environment of England, and this belief is based on the acculturation gap which was evident amongst migrant generations in this research.

The research by McFadden et al. (2014) also found that where a grandmother’s indigenous knowledge about breastfeeding was devalued in England, her traditional role in conveying knowledge was subsequently usurped by the modern, scientific knowledge of professionals in England. Similarly this research also indicated that second generation migrants further devalued indigenous flood knowledge from abroad because they recognised that in many



cases first generation migrants had experienced flooding abroad but it was a different flood experience in England: *“It never really happened to her. It did but it’s a different flooding if you get what I mean”* (Nyasha PVFG). The lack of experience of flooding in England and the difference in the approaches to flood risk management between England and abroad led to second generation migrants feeling that first generation migrants would not have the knowledge to advise on response to flood risk in England:

*“Not their advice I don’t think no. I think when things happen over here you don’t really...I think it is because of where they are. Their situation is different and over here you would still have agencies and the local council and stuff like that whereas over there they don’t have that so it is still different. No, the only advice they would give us would be how to keep ourselves emotionally and physically safe and stuff like that. But not practical stuff, they wouldn’t know because different countries, different ways of doing stuff”* (Anisha RVFG).

Jatin also discussed that his parents would tell him to evacuate if there was risk of flooding, because that was the typical procedure followed in his community in South India. He felt that this indigenous knowledge from abroad would not be relevant in England where the differences in flooding and being in a developed country would mean that he could take precautions and not immediately evacuate: *“They don’t know this country, they experienced it in their village so they say you must move, but we know we don’t need to move, here you can live but take precautions even when it is raining we take precautions”* (Jatin RVFG).

### **7.3.3 My friends and family over here...**

Instead, the data indicated that 72% (26/36) of all participants (migrants and non migrants) would take the advice of relatives who had experienced flooding in England and these findings were significant (Appendix G). This was emphasised by Anisha who had earlier discussed that individuals with flood experience abroad would not be able to provide flood advice in England. Yet, in the case of a flood event in England, she argued *“If I was really stuck for something it would be over here, my friends and family over here”* (Anisha RVFG).

This positive attitude to asking the advice of those who had flooded in England was related to their flood experience and awareness of actions to be taken to respond to the flood risk. Anisha highlighted that talking to individuals in her ethnic community who had flooded increased her awareness of protective measures to be taken in a flood event, including having sandbags and protecting gas and electric meters: *“We would listen to their advice and see how we can do things differently ourselves to avoid that problem. Things like having sandbags and keeping stock of them really because we don’t tend to keep things like that around the house, you don’t think that you would ever need it. And sorting out your electrics and don’t put your gas supply in the kitchen and the cellars”* (Anisha RVFG).

Furthermore, this indigenous knowledge was valued because it had been applied in the local community and was seen to be an effective method of limiting flood damage: *“Mum said put lots and lots of bath towels against the door and then there wouldn’t be that much that comes in...Mum had seen someone do it and she did it herself and she noticed that it was less water”* (Saima RVSG). Davinder also spoke about his friend who had experienced flooding and advised him on how to protect his home from floodwaters: *“We had a warning... and he said ‘yeah don’t miss that... when you go home put the flood doors in’”* (Davinder PBFG).

The research also indicated that participants took advice on recovery after a flood event. Aziz experienced flooding in his cellar and asked his uncle for advice because he had previous flood experience. His uncle advised Aziz to hire a water pump to remove the water from his cellar, ensure his belongings were securely stored and to encourage absorption of rainfall by planting grass in his garden: *“Hired the water pump which he had used before, the changes I’ve made myself, the basement, I’ve put my stuff higher, and the garden I’ve made again, put grass on it. Yes I took the elders’ advice, my uncle”* (Aziz RVFG).

This advice may be considered to be indigenous knowledge because it related to local UK knowledge (Mavhura et al. 2013), was context specific and most relevant for the type of flooding in the study locations, such as getting water pumps in Ravensthorpe for cellar flooding or flood boards in Perry Barr to protect against fluvial flooding. It is interesting to observe that indigenous knowledge in England was not dissimilar to indigenous knowledge abroad. The protection of property abroad involved soil mounds and stones, whilst in England it involved sandbags and flood boards. The principles of indigenous flood knowledge appear to be the same but because second generation migrants devalue indigenous flood experience abroad and perceive the flood knowledge to be traditional, dated and based on illiteracy, superstition and folklore in a less developed environment, they do not value it nor accept it in developed, modern England. The position of first generation migrants as conveyors of knowledge was subsequently usurped by individuals who had flood experience in England. Their indigenous knowledge was valued because it was seen to relate to management of a flood experience in a developed environment, and this led to a transfer of indigenous flood knowledge in England.

Thus there was weak intergenerational transfer of indigenous flood knowledge from abroad amongst migrant generations in England and no evidence of an impact on second generation migrants’ response to flood risk. The negative attitude to following indigenous knowledge from abroad was evident amongst male and female second generation migrants, thus may be attributable to an acculturation gap as opposed to a gender issue.

## 7.4 Summary

This research explored whether there was intergenerational communication of previous flood experiences amongst migrants to England and whether this affected the risk perceptions and response to flood risk amongst second generation migrants. This was understood in the context of the social network contagion theory (Scherer & Cho, 2003). It was argued that the restricted communication between migrants as a consequence of the acculturation gap may be a factor limiting the communication of flood experiences, especially as the social network contagion theory highlights social linkages as important in influencing the risk perceptions of an individual.

The research found that because second generation migrants had a bicultural, not assimilated identity, they experienced communication about flood experiences in England and abroad within their ethnic and wider community, between and across migrant generations. This also highlighted the differences in flood risk perceptions amongst first generation migrants with flood experience in England compared to abroad. It was found that the location of the previous flood experience was important in influencing whether there was transmission of flood risk perceptions.

In relation to the research by Bonin et al. (2010) this research found that there was weak intergenerational transmission of flood risk perceptions based on flood experiences abroad amongst South Asian migrants in England. This was because first generation migrants did not see floods as a risk in England but a woman dishonouring the family was seen to be a risk, thus this risk perception was communicated across generations to ensure the preservation of the family honour. Subsequently flood experiences abroad were discussed rarely and the low flood risk perceptions in England were not shared. This indicated that their understanding of what they perceived to be a risk in England influenced what first generation migrants communicated about in the home.

The research found that this understanding of flood risk was not similar across migrant generations. Second generation migrants who were integrated in British society dismissed the communication of flood experiences abroad as stories and not a risk to them in England due to the proximity away from the hazard. Thus contrary to the social network contagion theory (Scherer & Cho, 2003), despite being involved in their ethnic community, the intergenerational communication of flood experiences from abroad did not decrease the flood risk perceptions or affect response to flood risk amongst second generation migrants in England. This may be related to the bicultural identity of second generation migrants, where they are integrated in British society and cannot relate to flooding abroad as an issue that is of relevance to them in England. This suggests that the social network contagion theory may not be applicable when understanding the intergenerational transmission of risk perceptions

across migrant generations in relation to experiences abroad, because the issue of acculturation and especially the acculturation gap influences how second generation migrants understand and perceive these experiences.

The risk perceptions of second generation migrants were influenced by inter and intra generational communication of flood experiences in England. This was because the flooding was seen to impact the local community and threatened their sense of place, with individuals visually confirming the damage to homes belonging to their friends and family. These findings support the social network contagion theory (Scherer & Cho, 2003): the risk perceptions of individuals with flood experience in England were transmitted to members within their social network, leading to second generation migrants being concerned about the flood risk in the local community and to their home. This increased their protective motivation and they had a positive attitude to response to flood risk. These findings indicate that the understanding of flood risk is different amongst first generation migrants with flood experience abroad and second generation migrants in England and this subsequently influences the response that each generation has to flood risk in England.

Furthermore, the research explored whether indigenous flood knowledge from abroad was communicated across migrants generations influencing their response to flood risk. First generation migrants applied indigenous flood knowledge from abroad in England, but their reliance on the government to protect them may have limited further application and communication of this knowledge to migrant generations.

This research had found that in relation to daily communication patterns, second generation migrants did not feel that elders could provide advice on issues in England. They sought elders' advice on cultural issues such as cooking or sewing but not issues relating to wider British society. The acculturation gap led to a devaluation of experience abroad and traditional knowledge which was perceived to be irrelevant and similarly this research also found that there was a devaluation of flood experience and indigenous flood knowledge from abroad amongst integrated second generation male and female migrants in England. They believed the flood experience and the related indigenous knowledge to be 'old stories' which were seen to be based in superstition and illiteracy and were therefore believed to be irrelevant in modern society (Nayar & Sandhu, 2006). Thus flood advice would not be taken if it was believed to be an old wives tale, and would be evaluated to determine its applicability in England.

This devaluation of knowledge was further enhanced when second generation migrants recognised the differences in flooding in England and abroad and believed that the approaches applied overseas to manage flood risk would not be relevant in England. Thus in support of the research by McFadden et al. (2014), second generation migrants would not

take the advice of first generation migrants with flood experiences abroad, highlighting their loss of power as conveyors of knowledge in the home. Instead second generation migrants valued the knowledge of individuals with flood experience in England who were aware of how to manage and respond to the flood risk.

In essence they valued knowledge in the 'modern' world in comparison to the traditional flood knowledge in the developing world, without recognising that the principles of indigenous flood knowledge were very similar. The acculturation gap meant second generation migrants neither valued flood experience or flood knowledge from abroad. Thus there was weak intergenerational transmission of risk perceptions and indigenous flood knowledge from abroad and no evidence of an impact on response to flood risk.

These findings therefore provide an insight into how migrant generations understand and respond to flood risk and indigenous knowledge, with their bicultural identity and the acculturation gap influencing their flood risk perceptions in England and attitude to flood risk abroad. The findings subsequently highlight how their risk perceptions and actions may differ from those of first generation migrants. These findings were better understood in the context of the daily communication patterns in South Asian households which were revealed through the discussion about floods. The research also revealed the enforcement of gender norms and the power structures in the home which influenced whether women had a voice. Thus although migrant generations may perceive flooding to be a risk in the study locations in England, and have a positive attitude to response, the enforcement of gender norms may influence how migrant women actually respond to flooding. This is explored in Chapter 8.

# Chapter 8: The gendered response to flood risk in England

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## 8.1 Introduction

This chapter will discuss that although second generation migrants were not influenced by the flood risk perceptions and indigenous knowledge of first generation migrants with flood experience abroad, the daily communication patterns relating to the enforcement of traditional gender norms within South Asian migrant communities influenced women's practical response to flooding in England. This will be discussed in the context of the earlier findings of this research relating to the acculturation process influencing 'outside earning' and increasing the bargaining power of women (Berry, 1997, Agarwal, 1997, Sen, 1985).

It will be highlighted that first generation women did not have a voice in the home and this influenced their behaviour in a flood event, with men making decisions. The chapter will also discuss how integrated and educated second generation women had the power to make decisions relating to the response to flood risk in the home. These women advised their elders on response to flooding, effectively challenging the traditional top-down form of communication. Adolescent women did not have a voice with their grandparents but did have knowledge on responding to flood risk. They communicated with their parents, encouraged autonomy amongst their mothers and indirectly advised their grandparents as knowledge flowed up. The changing enforcement of gender norms over generations meant that they contributed to decision making in the home. These findings are important in understanding the notions of risk amongst South Asian migrants and how this influences how women can and cannot respond to flood risk.

## 8.2 The power of men

This research found that inter and intra generational communication about flood experiences in England increased the risk perceptions and response to flood risk amongst second generation migrant men and women. This involved the acceptance of indigenous flood knowledge in England relating to protective motivation, preparing for flood risk, responding to flood warnings and managing the impacts of flooding. These findings indicated the differences in flood risk perceptions and response to flood risk amongst first and second generation South Asian migrants in England.

However, when the response to flood risk was explored further in the gender context, it was found that there were variations in the extent to which women could respond to flood risk.

This was related back to the earlier findings of this research which found that due to the understandings of risk amongst first generation migrants, the enforcement of patriarchal control meant that some first generation women were bounded in their actions and obeyed the men in their household as traditional gender norms were followed (Chapter 6). They did not have any bargaining power and could not make decisions themselves, they listened to the decisions made by men, accepting this behaviour as the norm (Ali et al. 2011). The research found that these gender norms influenced whether women could make decisions relating to flood risk response.

This was evident in the case of Samina who was dominated by her husband, and thus when asked if she would be interested in registering for flood warnings, she had to ask the permission of her husband because he made the decisions in the home:

SR: The flood warning service is operated by the Environment Agency. It is a free service, if you register with them then they send you a flood warning if there is flood risk. Would you be interested in this service?

*“Yes there should be a service like this...I will ask my husband”* (Samina RVFG).

Kamaljit is a recently arrived first generation marriage migrant from India. In what may be seen as a traditional gendered division of labour, she is responsible for looking after the children and the home along with her sister in law whilst her husband goes to work. She discussed her daily routine: *“I just don’t get out really, it’s just that we don’t really go out unless we need to do something- if we need to just pop to the shops, but we don’t go out unless we need to specifically get or do something”* (Kamaljit PBFG). Kamaljit also did not attend flood action group meetings in her community, instead her husband Surjit attended because he was more involved with the wider community and was more educated in terms of being able to speak and understand English. Surjit emphasised this when he was asked if his wife could be interviewed for this research and wryly stated: *“You won’t get much of a response... she doesn’t speak English”* (Surjit PBFG).

The existing research on gender norms in Australian bushfires indicated that because women felt that fighting bushfires was ‘men’s business’ they did not engage with bushfire prevention, preparation or response activities (Eriksen et al. 2010). This behaviour meant that in a bushfire, women did not have the knowledge to implement systems of defence. Similarly, gender norms meant that Kamaljit was not expected to leave the home unless necessary, and therefore did not attend flood action group meetings, which may have increased her ‘outside earning’ (Sen, 1985). This meant that she had a lack of awareness of how to respond to flood risk in her community: *“Well I don’t have that much knowledge about it, maybe my husband would know”* (Kamaljit PBFG). Instead it was evident that the gendered division of labour in the home left Kamaljit responsible for the children in a flood

event (Enarson & Fordham 2001): *“I would try to manage, I would look after the children first, like the water is right next to us here, and we would make every effort to make sure the children are safe first”* (Kamaljit PBFG).

Furthermore, because Kamaljit was not responsible for managing issues outside the home, she was reliant on her husband to tell her what to do. She stated that she would listen to her husband and would trust his knowledge more than the Environment Agency:

SR: If you did receive a warning message yourself and you were the only person at home, what would you do?

*“Then I would try to get the children out of the house, if my husband was at work then I would phone him... I would ask him what to do”* (Kamaljit PBFG).

SR: And would you trust the warning message or what your husband says?

*“What my husband says... ”* (Kamaljit PBFG).

Thus traditional gender norms are seen to limit whether women can make decisions about response to flood risk because of daily patterns where men are in a position of authority and responsible for managing issues outside the home. This may increase a woman’s vulnerability to flooding because as was seen with Kamaljit, traditional gender norms which constrained her to the home meant she had a lack of knowledge of the flood risk management approaches in the local area and subsequently did not have the power to make a decision herself on how to respond to flooding. Her gender and her lack of education as well as her lack of involvement in the wider community decreased her bargaining power in the home. Thus she was reliant on her husband and her actions were based on the decisions that he made for the family, in what may be seen as a top down form of communication.

The fact that she would trust her husband over an official warning highlights his hierarchical position. This may increase her vulnerability if she cannot respond to flood risk unless she has permission from her husband, especially if he advises her to stay in the home and this opposes the advice of an official flood warning. Similarities may be drawn to women in Bangladesh who did not have knowledge about response to cyclone warnings, could not make their own decisions based on gender norms and were unable to leave their home on receipt of a warning unless chaperoned and given permission by a male member of the family (Bradshaw, 2013). Furthermore, these findings highlight that an uneducated woman would not be expected to make a decision in a flood event, instead the voice of a man is stronger.

The research also highlighted further evidence that women responded to male authority in the event of a flood. Pari is a second generation Pakistani migrant but spent 14 years living in Pakistan. Thus she may be considered to be a 1.25 generation migrant who behaved



similarly to a first generation migrant in terms of adhering to traditional gender norms because she returned to England after spending her childhood in Pakistan. Pari spoke about asking the advice of elders in her family, but her comments related to listening to men, not women: *"We would ask Dad because we might not know, we ask my brothers to ask how we should do things and they tell us don't do it this way do it that way, so you need to ask don't you...yes they have that experience, they understand the way things should be"* (Pari PBSG). Pari even discussed that she listened to her husband about opening the door to conduct the interview for this research: *"You had told me beforehand, you phoned, and my husband told me as well that you were coming and to open the door to you, otherwise I wouldn't have opened the door, I lock the door, we don't open it for anyone"* (Pari PBSG).

Thus interestingly, when her home flooded, Pari relied on the men in her household, but also responded to male authority outside the home and opened her door to a male police officer: *"The police came round and they said there is danger and you need to make sure you sort yourselves out and are safe. There was danger to our lives and if we stayed then it wouldn't have been their fault because they were telling us that there is danger, leave, go, go, there is danger the flooding could happen again. So I took the children to my brother's....I contacted my husband ... and we talked about it and I said that the police have been round and told us there is danger of flooding and he dropped us at my brother's"* (Pari PBSG). Thus Pari trusted the advice of the male police officer and discussed it with her husband, and also relied on her brother for support. This may be an indication of the perceived hierarchical position of men which led to Pari trusting male authority outside the home and asking the opinion of men, not women in her family. This may increase her vulnerability if she is unable to contact men for advice on responding to flooding.

Thus migrant generations' response to flood risk may not be influenced by previous flood experiences or indigenous knowledge from abroad, but the enforcement of traditional gender norms in England may increase the vulnerability of women to flooding because it influences how they can and cannot respond to flood risk.

### **8.3 The power of women: a role reversal**

In contrast to first generation migrant women such as Kamaljit and Samina, the research found that there were also women who made decisions about responding to flooding themselves and did not rely on men. This was discussed in Chapter 7 where it was highlighted that both first and second generation men and women devalued indigenous flood knowledge from abroad in England as it was perceived to be irrelevant. Instead, first and second generation migrant women such as Anisha (1.5G) and Rashida would ask the advice of individuals who had experienced flooding in England and were confident in making their

own decisions. This may be related to the acculturation process and their integration in the wider community as well as their education which gave them the knowledge and power to make their own decisions (Ali et al. 2011).

Furthermore, it was also discussed in Chapter 6 that their education as ‘outside earning’ (Sen, 1985) gave second generation migrant women a voice in their home. There was a role reversal where women made the decisions because they had greater bargaining power and first generation migrants (elders) did not have the knowledge to manage issues such as visas or mortgages and could not communicate in English. This may be related back to their separated identity and lack of acculturation in wider British society. Similarly, this research found that in the case of a flood event, migrant parents listened to educated men and women because they did not have the knowledge to find out further information or respond to flood risk themselves.

This was seen in the case of Omar, a first generation migrant who discussed that he would speak to his sons about the flood warning service to find out if he should register for it: *“Yes, they would be the ones who would be checking on the internet”* (Omar RVFG). Rabia a first generation migrant also relied on the advice of her children in relation to registering for the flood warning service: *“The children read the letter and told me and I said, it’s OK, its beneficial for us, so we signed up for it”* (Rabia RVFG). Importantly, this highlights that first and second generation women were involved in decision making relating to response to flood risk. In this case, knowledge did flow up from second to first generation migrants. This is in contrast to first generation women relying on men for knowledge on responding to flood risk, where knowledge flowed from top to bottom, man to woman.

This was evident in the case of Anisha who spoke about how she would advise her family on appropriate actions to be taken if they received a flood warning instead of asking their advice. Thus she would make a decision on the practical response to flooding:

*“I could ask them, I don’t think I would, I would get the question asked to myself.... ‘So ok, you have told us there is a warning what do we do then, what is the next step?’...I just went and got some sandbags and put them at our house on the back garden and stuff like that and put some at the front as well because the front was lower and the back was higher”* (Anisha RVFG).

SR: So you didn’t say what are we going to do?

*“No. I got asked what do we do? Like I think we need to get some sandbags”* (Anisha RVFG).

SR: OK, and is there any reason why they weren’t aware of what to do?

*“They have never experienced.....my parents have been here for 13 years, 14 years, they have no experience of floods and things like that, and this was their first experience of seeing water come close to their house, they didn’t know what to do.*

*They have never heard of anything like....I think my dad knows about the Environment Agency but he doesn't have their contact details so he wouldn't know what to do and stuff"* (Anisha RVFG).

Anisha's parents were unaware of the actions to be taken or who to contact to get advice on the flood risk because they had not experienced flooding in England and therefore were unfamiliar with the approaches to be taken to manage the flood risk. Anisha was involved in her community through her work at the local council. Thus she had discussed observing the damage to homes and also had a positive attitude towards taking advice from those that had flooded in the Ravensthorpe community. This communication meant that she applied this knowledge and advised her parents. Anisha also acknowledged that if she had not worked in the community and was unaware of how to respond to a flood warning, she would have researched her options on the internet: *"I wouldn't have known about it, then the first thing to do would have been like research the internet and phone up the council directly and ask them what to do"* (Anisha RVFG). Thus Anisha's education and ability to find information may still have resulted in a positive action and guidance for her family. Furthermore, there was no evidence in the research that women who limited communication with judgemental elders also limited communication about flood risk to these individuals.

It was also discussed earlier that first generation migrant women would rely on men in the home when responding to flood risk due to gender norms. However, the research indicated that both male and female second generation migrants would make decisions relating to responding to flooding with their spouse, which may be related to issues of gender relations. This was discussed by Junaid, a second generation educated Indian migrant who highlighted that as a British Asian, he did not agree with gender norms. Thus decision making relating to the practical response to flooding would not involve his hierarchical role, but equality between him and his wife: *"It would be a bit of everything, what my thoughts are, what my wife's thoughts are and then make the decision"* (Junaid RVSG).

This indicates that as second generation migrants distance themselves from following traditional practices and integrate into wider British society, women may have greater bargaining power in terms of not only having a stronger voice against elders when making decisions in the home but also with their husbands as gender equality may be enforced in accordance with western norms and increased education. These findings suggest that there are changes in power structures in the home as migrant children are seen to provide knowledge to their parents, who have less of a voice as their knowledge is devalued.

## 8.4 Adolescent women: Agents of empowerment?

The research also found that adolescent women devalued indigenous knowledge from abroad and felt that they could speak to their parents not their grandparents about the issues they faced in England (Chapter 6). They felt that grandparents could not advise on issues outside of the cultural context, especially due to the acculturation gap. Subsequently adolescent women would seek the advice of their parents whom they had a better relationship with as opposed to their bullying and judgemental grandparents.

Similarly, adolescent women felt that in a flood event, their grandparents would not be able to provide suitable advice due to a lack of experience in England, and thus they would seek advice from their parents. This was discussed by Zubeida, who found that because her grandmother had not experienced flooding in England, she could only provide advice about moving valuables to safety, which Zubeida thought was obvious. Instead she would listen to advice from her mother:

SR: And would you take advice from other generations about flooding?

*“From my mum I would, yes, like one generation above me but going back she knows more, but I think two sets up is too old, I don’t think they’ve experienced it before, or not enough, so ..”*(Zubeida RVSG).

SR: OK, so that’s your grandma?

*“Yes. I don’t think she’s experienced it”* (Zubeida RVSG).

SR: And did she give you any advice when it happened or after it happened?

*“My grandma states the obvious, like move the stuff! I don’t think she knows about that kind of thing, she would just, she knows about storing valuables... she would say what are you doing, and we would say we’re moving because of the flood, a flood might happen, so then she would wait and say, go and move things upstairs!”* (Zubeida RVSG).

The research indicated that where flood warnings were in English, some first generation migrants would have difficulty understanding the message due to language issues. In what may be seen to be a role reversal, this research found that some parents overcame this disadvantage and would rely on their children in a flood event, actively seeking their advice; this was evident in the case of Rabia who spoke about asking her daughter to translate the flood warning:

SR: Ok, and if you were at home and receive a warning in English...

*“I do understand some of it, but I can’t speak...I can understand parts of the message”* (Rabia RVFG).

SR: Ok and then what do you do..?.

*“She can understand it, she can probably understand a little bit but she can’t speak English, she can understand it though” (Daughter)*

SR: Ok and so you tell your children?

*“Yes” (Rabia RVFG).*

Adolescent women also discussed that they would intercept and translate the messages and ensure their parents understood the issue. This was discussed by Saba who argued that if she received a flood warning she would tell her parents: *“Yes, I’d just let my mum and dad know... my mum needs to be aware of that” (Saba RVSG)*. This indicates that adolescent women would communicate about flood risk to their parents and this may be because they had a voice with their parents and were listened to.

It must also be considered that adolescent women may be encouraging autonomy amongst their mothers, who as first generation migrant women may be uneducated and have to listen to the men of the house. Kamaljit for example was vulnerable to flooding because of her reliance on her husband, but as her children were born in England, they encouraged her to speak English in order to have a greater awareness of issues in the community: *“Yeah the kids try to get me involved, they say we will speak to you in English and you try to answer. They said if you don’t know that we will be able to tell you” (Kamaljit PBFG)*. Zubeida had earlier spoken about helping her mother with her college course. She also discussed that she encouraged her mother to speak English and be involved in the wider community: *“We speak Urdu as a first language but now I speak more English to try and get my mum going... in the area there is a lot of things going on... at the community centre there’s a lot, ... I’ve been trying to get my mum into more of them” (Zubeida RVSG)*.

It may be the case that as their children are educated, first generation migrant women can seek their advice and this may increase their awareness of flood risk and reduce their vulnerability as was seen in the case of Rabia and Saba. This may be related to existing literature on Bangladeshi second generation women in New York and their relationship with their mothers (Alam, 2014). The study found that a daughter’s education empowered her mother to challenge her subservient role and patriarchal control that was enforced in the home: *“A girl sought to empower her mother, instead of accepting her traditional subservient role, through academic success, discreetly upending the equilibrium of ethnic patriarchy” (Alam, 2014: 345)*. A participant in the research argued that: *“My daughter has constantly empowered me in the family in unforeseen ways and I always tend to fall back on our mother–daughter bond, it is my daughter who encourages me to believe that I can have more control over my life than what my husband is willing to concede” (Alam, 2014:345)*.

Thus in this research, first generation migrant women may be vulnerable to flood risk but they may be supported by their children and especially daughters who seek to ensure their mothers have an increased awareness of flood risk. The communication of flood knowledge may increase their bargaining power in the home and decrease their reliance on male authority as they are able to make decisions on flood response. Subsequently, their vulnerability to flooding may also be decreased. This may be evident in the case of Rabia whose children told her about the flood warning service and based on their knowledge she decided to register for the service as opposed to asking her husband for permission. Furthermore, Rabia relied on her children to translate flood warnings, and subsequently felt there was no need to ask the men in her family, such as her brothers for advice on what action should be taken:

SR: If you get a message would you ask your brothers for advice?

*"No why ask them? It's happening in our home, we got the message ourselves"* (Rabia RVFG).

However, the research also found that in a flood event, adolescent women still did not have a voice against their grandparents. This can be related back to their daily communication patterns as discussed in Chapter 6, where traditional gender norms dictated that adolescent women were to be 'seen and not heard'. Older, first generation migrants did not value the voice of women, especially younger women and instead the voices of men were stronger, with their hierarchical position giving them the power to make decisions.

This may be explored in the case of Jabeen and Hafza who spoke about not taking flood advice from their grandparents, because as argued by Zubeida, grandparents would not know about flooding in England. Instead Jabeen and Hafza felt that they would tell their grandparents how to respond in a flood situation because they would find it difficult to understand flood warnings, especially due to their age: *"Yes because the situation is different in Pakistan. They're old as well and they would get worried instead, panicking and not doing the rational thing"* (Hafza RVSG). Jabeen and Hafza felt that they would have the knowledge and education to find information using specific technologies that may have been less user friendly to their grandparents (Tapsell et al. 2005). They believed they would then be able to provide suitable advice and their grandparents would trust them:

SR: OK, so you would call grandparents to tell them there is a flood warning, would you ask them for advice on what to do?

*"No we would tell them what to do"* (Hafza RVSG).

SR: Why do you think that is?

*"Because they would trust us in that case"* (Jabeen RVSG).

*“Yeah we’re more like know things, these things they are not aware very much, so they would rely on us to give them advice” (Hafza RVSG).*

*“Probably ‘Google’ it, and then it would probably tell everyone and then see how bad it is or how something and stuff like that.....we would try and look online or a website to find out, a local website to confirm it” (Jabeen RVSG).*

Yet, it appears that although Hafza and Jabeen may have knowledge about how to respond to flood risk, they do not have the bargaining power to make a decision in the home and would not talk to their grandparents directly. This may be because they recognise that their voices are not valued and they may not be listened to even if they can speak and understand English whilst their grandparents cannot; it appears that adolescent women did not value their grandparents’ indigenous flood knowledge from abroad and vice versa.

Instead, Jabeen and Hafza would speak to their father, whom they have a good relationship with, with Hafza having more of a say than her younger sister Jabeen, and their father would then speak to his parents. This indicates that their grandparents may value the advice of a man as opposed to a young woman because they continue to enforce traditional gender norms and ‘uncontestable’ social norms relating to the extent to which younger women in the household have a voice (Agarwal, 1997). Ultimately, the man of the house would make the decision on how to respond to flood risk, although it is a positive finding that adolescent women would have a voice with their parents as opposed to women such as Kamaljit who relied on a man to advise her, and the women in Bangladesh who had to obey their parents. This may be because the enforcement of gender norms was found to weaken with subsequent migrant generations:

SR: And would you be involved in any decision making?

*“Probably not, you would, I wouldn’t” (Jabeen RVSG).*

*“Yeah I would say we should do this, and take that into account” (Hafza RVSG).*

SR: Ok, who would be the ultimate decision maker?

*“Dad” (Hafza RVSG).*

SR: Would he ask your grandparents?

*“Dad, mum, they would tell them.” (Jabeen RVSG).*

This communication was also seen in the case of Saba who discussed that when she received a flood warning, she would tell her mother. The information would then flow up to her father and he would tell their grandparents: *“My mum would like talk to dad and ... then they’d phone everyone else, all the family, grandparents” (Saba RVSG).* Saba may not speak with her grandparents directly because of the distance she maintains from them on a daily basis

based on their judgemental behaviour and they may not perceive it as acceptable for her to provide them with a warning in accordance with social norms.

These findings indicate that where older, educated first and second generation migrant women had greater bargaining power and a voice in the home to make decisions relating to the practical response to flooding, educated adolescent women who had the knowledge to understand and respond to flood risk did not have a voice against their elders and thus no power to make decisions. They were bounded by their age and gender. This indicates that there is a mismatch in who may have the knowledge and who makes the decisions in a flood event.

Nevertheless, because of the positive relationship with their parents, adolescent women could communicate their knowledge to their parents who did value their opinion and this may be seen to encourage autonomy amongst first generation women. Yet these changes in power structures are based on time; Samina has young children who are not yet educated, therefore she is still subordinate to her husband and reliant on the decisions he makes, whereas Rabia has older, educated children who advise her on responding to flooding, and this increases her bargaining power in the home. Nevertheless, this communication pattern was a positive finding as this knowledge subsequently flowed up from a woman to a man in order for it to be valued in the eyes of elders. Thus although migrant gender norms in England may be seen to limit the voices of adolescent women as in Bangladesh where girls had to rely on men to make decisions, because the acculturation process may reduce adherence to and enforcement of gender norms with each subsequent generation, adolescent women can indirectly contribute their knowledge to decision making in the home in England.

## **8.5 Summary**

The literature discussed that patriarchal control is stronger within ethnic minority communities and the related social and gender norms and power inequalities increase women's vulnerability to disaster in the developing world (Bradshaw & Fordham, 2013). This research indicated that although individuals were not influenced by risk perceptions and indigenous knowledge from abroad, the enforcement of traditional gender and social norms influenced women's vulnerability and practical response to flooding in England, especially amongst South Asian migrants. This was understood in the context of the acculturation process influencing 'outside earning' and increasing the bargaining power of women (Berry, 1997, Agarwal, 1997, Sen, 1985).

The research found that uneducated first generation migrant women were controlled by the men in their homes. They did not have the power to make decisions and obeyed the top-



down communication from men. Similarly, these power relations were evident in a flood situation. Women would ask permission from their husbands to register for a flood warning and because of the daily gendered division of labour, these women were responsible for caring for their children in a flood event (Enarson & Fordham, 2001). Furthermore, because they were constrained by their lack of education and gender norms, they had lack of awareness of how to respond to flood risk. Their lack of 'outside earning' meant they had no bargaining power in the home to make decisions. Thus in a flood event they were reliant on men to tell them how to respond, and because they were uneducated, they were not expected to make decisions. Their reliance on men extended to trusting a male in their family over an official warning from the Environment Agency. This indicates that women may be vulnerable to flooding based on their inability to make a decision on responding to flood risk themselves and especially if the advice of men contradicts the message in an official warning. Similarities may be drawn to research in Bangladesh where women did not have the knowledge nor the power to make decisions and relied on men to give them permission to leave their home (Bradshaw, 2013).

However, second and some first generation (1.5G and 1.75G) women who migrated to England at an early age and were educated had greater bargaining power and challenged patriarchal control. They devalued indigenous knowledge from abroad and had the knowledge and power to make a decision about responding to flood risk and advise their family of practical actions to be taken. This indicated that knowledge did flow up from second to first generation migrants. Furthermore, the enforcement of patriarchal control may diminish with each generation as the acculturation process occurs. Thus where first generation women obeyed men, 1.5G, 1.75G and second generation women may have a more equal voice with their husbands.

The research also found that second generation educated adolescent women devalued indigenous flood knowledge from abroad. Yet unlike older women, they did not have bargaining power to make decisions in the home because of gender and social norms where elders devalued their voices. These women were constrained by their gender and age, and whilst they had knowledge about flooding, their elders had the power.

A positive finding is that unlike adolescent women in Bangladesh, these women did have a voice with their parents and indirectly contributed to decision making. They communicated around flood risk and this information flowed up to elders, through the voice of a man. Although older first generation migrants only valued information if it came from a man, this indicates that over time, as the enforcement of gender norms diminishes, adolescent women may have the power to influence and potentially make decisions in their home. Furthermore, daughters were seen to ensure their mothers had an awareness of flood risk and therefore the

knowledge to make decisions about flood response. Thus over time, first generation migrant women may have greater power in the home to make a decision in response to flood risk as opposed to relying on men (Figure 8.0).

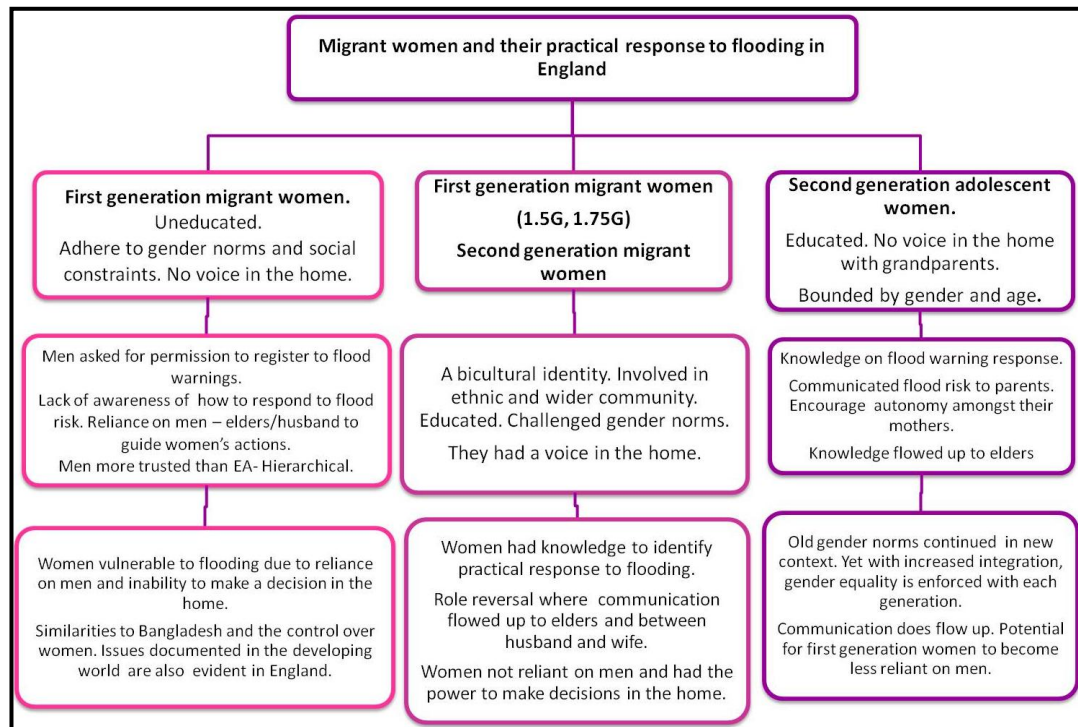


Figure 8.0 The influence of traditional gender norms on women's decision making power and practical response to flood risk in England.

# Chapter 9: Conclusion

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## 9.1 Introduction

The focus of this research was on perceptions of risk. The research aimed to understand the flood risk perceptions of first generation migrants with flood experience abroad and explore whether these risk perceptions were communicated to second generation migrants in England, influencing their response to flood risk. However, as the research unfolded it became apparent that the different aspects of an individual's identity, such as being a migrant, the location of their previous flood experience, being a migrant generation and their gender combined to construct their understanding of flood risk in England and how they responded to it. This 'intersectionality' meant that the research findings were more complex than expected. Moreover, while the research sought to discuss flooding, often the interviews revealed wider social issues and power relationships, which in turn provided a greater insight into how flood risk was understood, communicated and acted upon (Enarson & Morrow, 1998).

This chapter summarises the main findings of this research in relation to existing literature, the different theories identified as being relevant in understanding the research findings, and the aim and objectives of the research, and subsequently highlights the contribution to knowledge. There is also discussion of the implications of the research findings as a whole. The limitations of the research are highlighted as well as the potential for future research.

## 9.2 Discussion of research findings

This section summarises the main findings of the research in relation to the research aim and objectives and the theories that were used to frame the research findings, subsequently highlighting the contribution to knowledge.

### 9.2.1 Migrants and flood risk perceptions

The existing literature discussed the flood risk perceptions of ethnic minority groups in the UK with flood experience abroad. Robertson (2004) found that ethnic minority groups had lower flood risk perceptions because they could not imagine the disastrous flooding abroad occurring in the UK. The perceived differences in flood magnitude and damage caused meant that the UK floods were not taken seriously. The belief that the UK was a developed, 'technological' society where flooding could be better managed further decreased their flood risk perceptions. The subsequent positive 'affect' of feeling safe reduced their engagement with risk communication information.

These findings had not been explored specifically in relation to migrant ethnic minority groups, their flood risk perceptions and their response to flood risk. This research used the 'Affect' heuristic theory (Finucane et al. 2000a) to help understand the flood risk perceptions of first generation migrants and the PMT (Grothmann & Reusswig, 2006) to help understand their response to flood risk. The research found that similar to the findings of Robertson (2004), first generation ethnic minority migrants with flood experience abroad had lower flood risk perceptions in England. Their expectations of flood risk in England were based on their previous flood experience abroad. This experience influenced what they perceived a flood to be, and although their experience abroad was tagged with a negative 'affect', they could not imagine a similar event impacting the developed environment in England.

Furthermore, through comparing the two events, first generation ethnic minority migrants believed that the floods they experienced abroad were greater in terms of magnitude, severity and damage in comparison to floods in England. Subsequently, the research revealed that first generation ethnic minority migrants perceived floods to be 'nothing' in England and could not relate to the flood risk because they did not believe the floods were 'real' in comparison to what they had experienced abroad. This resulted in first generation ethnic minority migrants not being worried about the flood risk in England, thus they were seen to have a positive 'affect' (Terpstra, 2011). This also indicates how a flood risk perception related to a flood experience abroad may not transfer to another location, especially a developed country.

In addition to observing findings in support of existing research, this study also found that first generation migrants were challenged by the response to flood risk in England. They discussed that abroad they received no government support, and thus were responsible for managing the impacts of flooding. The overriding attitude was to 'get on with it'. Thus in England they were incredulous at how the country came to a standstill and how individuals relied on the system and government authorities in a flood event, with the focus on health and safely limiting the actions of individuals. The awareness of this behaviour combined with the perception that floods in England were 'nothing' meant that first generation migrants who had seen flood events in England did not understand why people in England made a fuss about floods and were bemused at the 'scaremongering' response to flood risk in contrast to the attitude of individuals in the developing world.

First generation migrants also believed the government was responsible for flood management and the safety of residents in England. This increased their sense of safety as they felt the government would protect them in a flood. The combination of not believing that flooding was a risk in England along with the reliance on the government for protection

resulted in the positive ‘affect’ of feeling safe, low flood risk perceptions and a negative response to flood risk (Miceli et al. 2008) which was understood in the context of the PMT (Grothmann & Reusswig, 2006).

Thus the research findings support the existing literature (Robertson, 2004) but also provide greater insight into migrant ethnic minority groups, their flood risk perceptions and response to flood risk in England which contributes to knowledge in this field.

Furthermore, the use of the ‘Affect’ heuristic and PMT to frame these research findings was important because the research involved in depth interviews with participants, where they talked about their flood experiences, and unconsciously expressed their emotions. Thus the ‘Affect’ heuristic approach involving the linking of these emotions to risk perceptions allowed a better understanding of the flood risk perceptions of first generation migrants and particularly how these may change from one flood prone location to another.

Additionally, as participants spoke in depth about their flood experiences abroad, their low flood risk perceptions and the associated negative response to flood risk could be further substantiated in the PMT. The PMT allowed a better understanding of why first generation migrants may not take protective action as it allowed each aspect of the threat appraisal and coping appraisal to be explored in relation to their flood experiences.

The findings of this research may be seen to add to the literature relating to the ‘Affect’ heuristic theory and PMT (Robertson, 2004, Grothmann & Reusswig, 2006, Miceli et al. 2008) in the context of understanding the relationship between previous flood experiences abroad and the flood risk perceptions and protective response in England of migrant ethnic minority groups.

### **9.2.2 An insight into migrant households**

The discussion about floods in this research inadvertently revealed an insight into the wider issues in the home and daily communication patterns (Enarson & Morrow, 1998). This was understood in the context of the acculturation theory (Berry, 1997) and particularly the acculturation gap (Choi et al. 2008), whilst bargaining power as part of bargaining theory (Agarwal, 1997, Sen, 1985) was used to help understand the extent to which women had a voice in the home.

The literature discussed that “different cultures have different views on the types of risk they worry about” (Pidgeon et al. 1992:108). The literature highlighted that class influences gender relations (Ali et al. 2011), and in many South Asian countries, gender norms are based on patriarchy and the need to protect the honour of the family (Wilson, 1978). Brandon & Hafez (2008) argued that ideas of honour are still relevant amongst South Asian

migrants in the UK, thus patriarchal practice may be enforced to protect the family izzat (Meetoo & Mirza, n.d).

This research supported the existing literature and found that first generation, less educated, and, the literature suggests therefore of lower class, South Asian migrants in the study locations were not worried about flood risk, but were worried about the westernisation of women. The traditional concepts of honour and shame were important amongst first generation South Asian migrants, especially amongst those who maintained a separated identity. Acculturation increased the fear that outside influences would lead to women betraying their traditions and becoming modern and westernised. This threatened the family honour and influenced intergenerational communication as patriarchal control was enforced. Thus this research found that traditional notions of gender roles and hierarchical power relations still exist amongst South Asian migrants in the study locations.

These findings were important as patriarchal practice involved gendered and socially constructed norms that determined the behaviour of women. They did not have a voice in the home as men made the decisions and this could not be challenged because the hierarchical position of men may be seen to be an uncontestable norm, thus their bargaining power was low (Agarwal, 1997).

The research further supported existing literature (Farver et al. 2002, Choi et al. 2008) and found that there was a culture clash between first generation migrants who had a separated identity and 1.5G, 1.75G and second generation migrants who had a bicultural identity and thus distanced themselves from following traditional practices (Birman & Trickett, 2001). This acculturation gap led to conflict and the enforcement of patriarchal control. Sen (1985) argued that 'outside earning' can increase the bargaining power of women in the home and this was evident in this research as educated, older women opposed patriarchal practices and vocally challenged the restrictions they faced as they fought for their bicultural identity (Ali et al. 2011). In support of Renzaho et al. (2011) they distanced themselves from their controlling ethnic community through limiting communication. Women took back the power by making their own decisions, especially as they devalued the experiences and indigenous knowledge of their elders as a consequence of the acculturation gap (McFadden et al. 2014). They were judged for their integrated identity but were valued for their education; thus in a role reversal affecting power structures in the household, women had a voice in the home to make decisions.

Adolescent women also faced patriarchal control from their elders, especially grandparents, in the form of a bullying forceful attitude towards imposing cultural beliefs. It appears that in contrast to Sen's (1985) argument about 'outside earning', their education did not increase their bargaining power, because gender also intersects with age. They could not challenge

their elders as older women had because they were bounded by their gender, age, and marital status and due to cultural norms relating to respect for elders. Hence they negated the power held by their elders by limiting communication.

The research indicated that there is potential for patriarchal control to diminish over time, with increasing acculturation, as educated adolescent women with a bicultural identity discussed their desire to change the gender norms that have been enforced over generations. They may eventually have a voice in their own homes as older women do. The changes to the enforcement of patriarchal control were evident in the research based on the reduced dictatorial enforcement of and adherence to gender norms with each generation and the smaller acculturation gap between child and parent compared to child and grandparent, which encouraged intergenerational communication.

The findings relating to the enforcement of gender norms and power relations, intergenerational conflict and challenging traditional norms support the existing literature (Brandon & Hafez, 2008, Renzaho et al. 2011, Wilson, 1978) but contribute to knowledge as these issues had not been researched specifically amongst South Asian migrants in these study locations in relation to their notions of risk.

Furthermore through using the acculturation theory to frame the research findings in relation to the communication patterns in the home and intergenerational conflict, this allowed a better understanding of the extent to which different migrant generations may follow cultural beliefs and practices. In relating their beliefs and behaviour to either a separated or bicultural identity, this allowed greater understanding of the patriarchal control that was enforced and why this may have been challenged and opposed.

Additionally, at the beginning of this research it was believed that if migrant generations had different acculturation strategies there may be conflict and limited communication. This was also evident in the research as the conflict between generations was related to the acculturation gap, and this did lead to limited communication and distance between migrant generations. The acculturation theory provided a useful frame to help better understand the relationship, communication and conflict between migrant generations in the research, to understand whether there was intergenerational communication about flood experiences from abroad, and how second generation migrants responded to this communication in relation to the acculturation gap.

It also allowed a greater insight into how the acculturation process and having a bicultural 'integrated' identity may have encouraged 'outside earning' amongst first (1.5G, 1.75G) and second generation migrants. This led to greater awareness of how different generations of migrant women had differing bargaining power, and this was important because it

highlighted the extent to which they had a voice in the home, which may have influenced their response to flood risk. This was also explored further in the research.

The findings of this research may be seen to contribute to the acculturation literature, including the acculturation gap (Berry, 1997, Choi et al. 2008) and literature relating to bargaining power (Agarwal, 1997) in the context of understanding communication and conflict patterns in South Asian migrant households, and how they may impact on understandings of risk and response to that risk.

### **9.2.3 The devaluation of experience and knowledge**

The notions of risk amongst South Asian migrants and the subsequent issues of gender inequality, conflict, power struggles, limited intergenerational communication and the devaluation of knowledge were revealed through the flood context. These findings were important because they provided an insight into how flood risk perceptions may be communicated across migrant generations, and how individuals understand and respond to flood risk.

Bonin et al. (2010) found that there was weak intergenerational transmission of risk perceptions between migrant generations, but this had not been related to the transmission of flood risk perceptions or whether there was an intergenerational transfer of indigenous flood knowledge from abroad.

This research contributed to knowledge and found that there was weak intergenerational transmission of flood risk perceptions based on flood experiences abroad between first and second generation migrants in England. The communication of flood experience and intergenerational transmission of flood risk perceptions was understood through the social network contagion theory (Scherer & Cho, 2003). The theory highlights that social linkages in communities are important in influencing the risk perceptions of an individual. The research had argued that second generation migrants' flood risk perceptions may not be influenced by the flood risk perceptions of first generation migrants due to the limited communication between generations as a result of patriarchal control (Scherer & Cho, 2003) and the acculturation gap.

This research found that second generation migrants with a bicultural identity still communicated within and outside their ethnic community about flood risk in England and abroad. It was not limited communication that affected whether individuals had shared risk perceptions but the location of the experience which determined whether flooding was seen as a risk and therefore discussed within the community (Nathan, 2008).

This was related to the risk perceptions of first generation migrants. They did not perceive flooding to be a risk in England and relied on the government to manage flood events, thus



they may not have felt it necessary to communicate their low risk perceptions to subsequent migrant generations. Although this research was about flooding and risk, what emerged as a concern amongst South Asian migrants was the westernisation of women and they communicated around this issue. Therefore intergenerational communication of flood experiences from abroad occurred rarely through narratives when triggered by events in the media. Second generation migrants felt sympathy for those who flooded abroad, but due to the proximity away from the hazard, they perceived the flood narratives simply to be stories and not a risk to them in England. They did not connect to the narratives which they perceived to be about a risk 'over there', which may be related to their integration into British society. Subsequently second generation migrants did not have lower flood risk perceptions or a negative response to flood risk in England. These findings suggest that the social network contagion theory may not apply to the intergenerational transmission of risk perceptions based on experiences abroad because of the acculturation process and the acculturation gap which influences how second generation migrants perceive and understand these experiences.

Furthermore, the research indicated that although some first generation migrants applied indigenous flood knowledge from abroad in England, their reliance on the government for flood protection limited their actions and communication of knowledge to second generation migrants. As with the earlier findings of the research which highlighted the devaluation of experiences and knowledge from abroad, male and female first (1.5G, 1.75G) and second generation migrants also devalued indigenous flood knowledge from abroad as 'old stories'. The indigenous knowledge was believed to be based in illiteracy and superstition, and thus was believed to be irrelevant in the modern environment of England. This highlighted the loss of power amongst first generation migrants as conveyors of knowledge in the home. This devaluation of flood experiences and indigenous knowledge from abroad was found to be a consequence of the acculturation gap.

This was supported by the findings of the research which also highlighted that second generation migrants experienced intergenerational communication within their ethnic community and intragenerational communication within and outside their ethnic community about flood experiences in England. This indicated that first and second generation migrants who had experienced flooding in England did perceive it as a risk alongside the westernisation of women, and communicated their experiences to individuals within their social network.

Narratives about flooding in England influenced the flood risk perceptions of second generation migrants as there was greater concern and awareness of flood risk. This may have been because the flooding affected friends and family, the flooding occurred in the local

community and individuals visually confirmed the flood damage. Thus as they were integrated in the local community, the floods may be perceived to threaten their 'home' in comparison to flooding abroad. Subsequently, the research found that the risk perceptions of individuals with flood experience in England were transmitted to members within their social network (Scherer & Cho, 2003). This increased their protective motivation and they had a positive attitude towards response to flood risk. Furthermore, second generation migrants also valued the indigenous flood knowledge of individuals who had experienced flooding in England as this knowledge was perceived to be relevant because it originated in a modern, developed environment.

These findings suggest that in support of the social network contagion theory (Scherer & Cho, 2003), communication about flood experiences in England within social networks in these study locations led to the transmission of flood risk perceptions and indigenous knowledge. It also highlights how the principles of indigenous flood risk knowledge may be the same in England and abroad, but this knowledge does not transfer from a developing to a developed environment because acculturated, second generation migrants who are integrated into British society do not value traditional knowledge in a modern world.

These findings contribute to knowledge as they focus on new issues relating to intergenerational communication around flood risk. They highlight how being a migrant generation influences the response to communication about flood experiences abroad and understanding of and response to flood risk and indigenous knowledge in England.

Furthermore, the social network contagion theory (Scherer & Cho, 2003) was used to frame the research findings in relation to the communication of experiences and transmission of risk perceptions between generations because it focuses on the social linkages in communities. This was believed to be particularly relevant amongst migrant communities where there is a focus on maintaining social networks (Ryan, 2009).

The results of this research were seen to both support and add to the social network contagion theory literature (Scherer & Cho, 2003) in the context of migrant generations and flood risk perceptions. In support of the theory, communication within their ethnic and wider community about flood experiences in England led to second generation migrants having similar risk perceptions to individuals within the social network. However, the research suggests that the social network contagion theory (Scherer & Cho, 2003) may not be relevant in terms of the transmission of risk perceptions between migrant generations if communication relates to experiences abroad. Second generation migrants may be part of their ethnic community, but they are also integrated into wider British society, which means that they have not shared and cannot understand the experiences abroad of first generation migrants. The acculturation gap influences how they perceive these experiences in the

context of living in a modern developed environment. Thus there may be intergenerational communication about flood experiences abroad, but there is no transmission of risk perceptions from first to second generation migrants in the context of flood risk, and this may be seen to be a consequence of the acculturation process. The notion of an ‘acculturation gap’ helps explain the devaluation of flood experiences and knowledge from abroad amongst second generation South Asian migrants.

#### **9.2.4 Gender norms and flood risk**

The existing literature also highlighted that the enforcement of patriarchal control influenced women’s vulnerability to disasters in the developing world (Bradshaw, 2013). These socially constructed gender roles also play a role in disasters in the developed world (David & Enarson, 2012), but there was limited literature on South Asian migrants in a post flood disaster context in the developed world.

This research linked these two literatures and filled a gap in knowledge. It has been discussed that one of the findings of this research was that patriarchal control and traditional gender norms were enforced in the study locations amongst South Asian migrants due to the importance of honour and shame. The research found that the enforcement of traditional gender and social norms amongst South Asian migrants and the associated communication issues influenced how migrant women could and could not respond to flood risk. This was understood in the context of the acculturation process influencing ‘outside earning’ and increasing the bargaining power of women (Berry, 1997, Agarwal, 1997, Sen, 1985).

The research found that some first generation, uneducated women who did not have bargaining power or a voice in the home and obeyed the decisions of men were reliant on men in a flood event. The daily gendered division of labour meant they were responsible for managing the home and children. Their lack of education limited their involvement with the wider community and restricted opportunities for ‘outside earning’ (Sen, 1985), thus they were unaware of issues relating to flood response and were not expected to make decisions. Consequently, they were dependant on the top-down communication from men in the household to advise them on how to respond in a flood event, trusting the men of the house more than the Environment Agency. These women were therefore seen to be vulnerable to flooding because their lack of flood knowledge meant they were unable to make a decision themselves. These findings are important as they indicate that issues relating to the gendered impact of disasters in the developing world (Fordham, 2001) are also evident in England. Thus they provide further insight into the specific causes of vulnerability to flooding amongst women in South Asian migrant communities in England.

The research further contributed to knowledge as it was found that second and some first generation (1.5G and 1.75G) migrant women who were educated in England and challenged gender norms had the knowledge to make a decision about response to flood risk, and advised their family of practical actions to be taken. This role reversal indicated that there was intergenerational transmission of indigenous knowledge which flowed up from second to first generation migrants as a consequence of women's increased bargaining power. Additionally, where first generation women obeyed men, 1.5G, 1.75G and second generation women were seen to have a more equal voice with their husbands, indicating a decreasing adherence to traditional gender norms with each migrant generation as the acculturation process continues and therefore a potential decrease in women's vulnerability to flooding over time.

The research also indicated that although education increased a migrant woman's voice in the home and gave her the power to respond to flood risk, educated adolescent women continued to be bounded by their gender and age and had no bargaining power with their grandparents. Adolescent women devalued indigenous flood knowledge from abroad, and although they had knowledge on flood risk response, their elders did not value their opinion. However, because of the decreased enforcement of gender norms and a smaller acculturation gap, adolescent woman had a voice with their parents. This allowed their flood risk knowledge to be communicated to elders through a man and indicates that although traditional gender norms restrict a woman's voice, there is still potential for her knowledge to be heard in the home as subsequent generations adhere to western norms. It also indicates that because of their education, adolescent and older second generation migrant women may be less vulnerable to flood risk than first generation women.

Furthermore, the existing literature discussed that second generation migrant women in New York empowered their mothers to challenge patriarchal control and make decisions in the home (Alam, 2014). This research further contributed to knowledge as it was found that educated daughters (second generation migrants) in the study locations sought to ensure their mothers (first generation migrants) had an increased awareness of flood risk and were thus able to make decisions relating to flood response. These findings provide an insight into the intergenerational and gendered communication of and response to flood risk amongst South Asian migrants in the study locations.

### **9.2.5 An intersectional lens**

In the context of this research, floods were used as a means to understand the wider social issues and communication relationships in the home and also revealed notions of risk amongst South Asian migrants. The insight into the wider issues and notions of risk amongst South Asian migrants especially through an intersectional lens was important.

Intersectionality revealed the complexity of understandings of risk and how they are communicated and acted upon or not in the flood context. The research also revealed the complex construction and transmission of knowledge. This thesis has therefore shed a light on how the different aspects of an individual's identity, such as being a migrant, being a migrant generation and their gender intersect to construct their understanding of flood risk and knowledge in England and how they respond to it.

This research suggests that the type of risk that migrant groups worry about influences their communication. In terms of flood risk, the research revealed that first generation migrants with flood experience abroad perceived flooding in England as a 'bit of water' and subsequently did not take flood risk seriously. This was reflected in their negative attitude to flood response.

Their children had a different perception of flood risk in England than their first generation migrant parents because they were integrated into British society where flooding was perceived to be a risk. Second generation migrants may listen to their elders about flood risk, but not if they believe their experiences and knowledge to be irrelevant. They may not connect to the flood narratives or flood risk knowledge about a risk that they see as being 'over there'. This indicated that perceptions of flood risk from abroad are not transmitted intergenerationally and different people have different flood risk perceptions. Instead the flood risk perceptions of second generation migrants were influenced by inter and intra generational communication about flood experiences in England by individuals who did take flood risk seriously. Thus they had a different attitude to flood risk response and concept of indigenous flood knowledge than their first generation migrant parents. These findings indicate how notions of risk may shift and change as well as how knowledge may be constructed, transmitted and acted upon across migrant generations.

The research also found that communication about and response to flood risk varied across migrant women. In terms of intersectionality, gender intersects with class, and, while the study did not seek to establish the class or socio-economic status of participants, a factor found in other studies to be a good proxy for class among these groups – education – did emerge as important. Women who were uneducated and followed traditional gender norms were bounded and relied on the men in the home to tell them how to respond to flood risk. On the other hand, communication was seen to flow in the opposite direction as first generation migrants relied on educated, second generation migrants including women to advise them on flood response. This indicates that intergenerational communication about flood risk may flow from first to second generation migrants and vice versa.

However, gender also intersects with age, and young women may know better about flood risk and response but wider social structures and norms led to them feeling disconnected

from their elders. This influenced how they responded to their elders and whether they listened to communication about flood experience abroad. It means that young women may be able to advise older first generation migrants who have a lack of understanding about response to flood risk in England, but the contradiction is that due to the social relation issues, their knowledge is not valued and they do not want to communicate around flood risk with their elders because of their strained relationship. Young, second generation South Asian migrant women are less vulnerable to flood risk than first generation migrant women, and may encourage first generation migrant women to understand and respond to flood risk in England without relying on men. The communication that occurs between mother and daughter indicates that in certain contexts, parents and especially mothers can learn from their daughters.

The research findings are extremely important as migrant numbers and ethnic diversity in England continue to grow along with flood frequency. In understanding the complexity of how flood risk is understood and communicated through an intersectional lens, these findings better our understanding of how risk is constructed and perceived and therefore add to how we conceptualise and understand flood risk in England. The findings of this research have partly filled gaps in academic literature but also contribute to academic knowledge by providing new insights into perceptions of risk amongst South Asian and particularly Pakistani migrants.

Furthermore, the research findings relate to perceptions of flood risk and communication around this particular risk, but the wider issues that were revealed relating to the changing notions of risk amongst South Asian migrants, the fraught intergenerational communication in the home, power relations and the devaluation of knowledge may have wider implications. This provides the opportunity for further research as these issues may be relevant in understanding risk perceptions in relation to issues such as healthcare, and how communication may occur in the home regarding health issues. It may also apply to issues such as finance, education, employment or hygiene. In short, the implications of this research on the risk perceptions and response to risk amongst South Asian migrants may be more far reaching than flooding. They may be relevant across different disciplines providing insight to understandings of how issues may be communicated in the home and how individuals may be bounded in their actions in response to different risks.

### **9.3 Limitations and future research**

This section discusses the limitations of the research in relation to the low ethnic group diversity, the gendered focus of the research and the capacity of the researcher. It also highlights the potential for future research.

#### **9.3.1 Low ethnic group diversity**

This research aimed to locate a range of diverse migrant groups within the study locations in order to address the research aim and objectives. The study locations were chosen based on census data and local knowledge indicating the diverse migrant groups in the area. In reality when the questionnaire surveys were conducted, there were different ethnic groups than expected due to a change in the population makeup over the 10+ years from census data to door to door data collection. There was greater ethnic diversity in both areas than expected, and this was beneficial as more migrant groups could be spoken to, yet the number of individuals from each migrant group was low. This was influenced by the small sample size in the quantitative research due to individuals not opening their doors or wanting to participate in the research. Thus when respondents were recruited for the qualitative research, this further reduced the ethnic diversity amongst the participants who were interviewed due to low interest. It has been discussed that the ethnicity of the researcher may also have influenced the ethnic diversity in the research sample.

This led to the majority of focus of the research being on South Asian migrants. The findings of the research relating to the flood risk perceptions of migrant ethnic minority groups based on their flood experiences abroad were based on the diverse ethnic groups within the research. The findings of the research relating to the insight into communication patterns, patriarchal control and gender norms were related to South Asian migrants including mainly Pakistani, but also Bangladeshi and Indian migrants. Thus it is recognised that this research and its findings mainly relate to South Asian migrants and particularly Pakistani migrants specifically within the study locations.

It is acknowledged that these groups are not the most recent migrant groups or the ones that have shown the most growth based on the 2011 census. Nevertheless, these groups are growing through migration and natural growth, and as this means that the number of ethnic minority individuals are growing, and increasing the number of people at risk, including both first and second generation migrants, then the issues explored in this research are entirely relevant and important to be investigated amongst these groups. Furthermore, as these groups are seen to be established, this allowed the intergenerational links to be explored in depth, and this could not have been achieved amongst the recent Polish migrants.

Although the findings in this research are valid, the research was conducted within specific communities, mainly amongst lower class Mirpuri Pakistani migrants living in flood prone areas, with the research highlighting changing education levels across migrant generations and how this influenced flood risk response. There is potential for further research which could explore in greater depth the extent to which there are differences in the enforcement of gender norms amongst South Asian and particularly Pakistani migrants based on their socioeconomic class and if and how this influences the response to flood risk amongst migrant men and women. This would include researching in areas prone to flooding, but would involve differentiating migrants by class, including the societies of origin (urban/rural) and education levels of first and second generation migrants and then exploring intergenerational communication patterns to explore the extent to which gender norms are enforced and followed amongst educated first generation migrants and their children. It is recognised that there is a class aspect in terms of the people who may live in areas that are likely to be flooded, but there are more affluent areas at flood risk, and research could be conducted to locate Pakistani migrants who have a higher socioeconomic status within these areas.

There could also be further research amongst a more diverse sample of migrant groups in other flood prone communities. If further research was attempted aiming to locate a diverse range of migrant groups, the initial study locations would have to indicate larger populations of diverse migrant groups in order to increase the chances of ethnic diversity at community level. The improvements to the ONS migrant mapping process would facilitate this and would also allow specific migrant groups to be located in order to research amongst them. Thus it may be interesting to conduct future research focusing on specific migrant groups, especially those that have shown more growth and were not included to a large extent in the research. This may include Polish, Romanian and Hungarian migrants and those that may have recently arrived in England based on increased migration opportunities for European migrants. Although they may be classed as 'White' and not be seen as an ethnic minority group, there may still be issues in terms of their response to flood risk that could be explored further. However, this research would need to be conducted amongst generations of migrants, and thus would need to allow for these communities to establish and grow over time. There could be research amongst the other migrant groups that have been seen to be increasing such as the Jamaican or South African migrants, especially as they have increased over several decades, and this would allow the opportunity to talk to migrant generations (Figure 2.02).

This would provide greater insight into whether there are differences in flood risk perceptions based on flood experiences abroad amongst other ethnic minority communities



and whether the complexities seen in this research relating to notions of risk and intergenerational communication apply to other ethnic minority groups. Further research may also explore whether different migrant groups from those included in this research have different views on the type of risks they worry about. In order to achieve this, there may be a need to recruit amongst specific ethnic minority communities through existing networks such as through places of worship or community centres.

Additionally, in order to address the recruitment issues seen in this research for both the quantitative and qualitative research, recruitment of participants may involve door knocking with a trusted member of the community to encourage participation in the research. In order to address the low interest and poor attendance at the interview sessions, future research would involve these research methods being conducted closer together to avoid research fatigue and potentially being arranged around existing events in the community to encourage attendance.

Research could also be conducted amongst migrants from other developed countries where there may be a different approach to flood risk management. This may include the USA and Australia where there are different flood events than in England. This would provide an insight into how migrants from developed countries may respond to flood risk and indigenous knowledge in England on the basis of their previous flood experience. These findings could be compared to the risk perceptions of migrants from developing countries. It is acknowledged that these groups may be more widely dispersed than the ethnic minority migrant groups in this research, and this would have to be explored further using the ONS mapping application.

### **9.3.2 Gender equality research**

This research was not originally a gender study. Gender emerged as an issue in part because of the discussions with participants and in part because of the higher number of female participants recruited through the female family unit research approach. This may have been a result of the researcher being a female British Asian, which meant that under patriarchal control, female participants felt comfortable talking to a female researcher about gender norms.

This research was exploratory, and although it addressed the gendered response to flood risk, it also raised some interesting questions for further research because it may be perceived to have a bias towards the vulnerability of women. This may involve South Asian migrants being located and researched specifically in relation to patriarchal control and flooding response. This would involve a greater focus on the restrictions women may face on a daily basis and the direct impact of this control on their response to flooding.

Furthermore, there were a low number of male participants in this research, but they were present in the discussion in the context of women talking about the men in their family. Thus it would be interesting to explore the male perspective of patriarchal control within South Asian communities, especially amongst male marriage migrants. This may include understanding the enforcement of patriarchal control amongst first generation migrants, and researching their views in relation to how they expect women to respond to flood risk and to what extent men including older men and adolescent men may be expected to make decisions and have a voice in the home relating to the response to flood risk. Future research may also involve researching amongst adolescent men to understand how they may or may not face social constraints if they are perceived as becoming 'westernised'. This may be contrasted with the restrictions that adolescent women face.

Additionally, this research found that due to the acculturation process, second generation educated women challenged patriarchal control and this influenced their behaviour in response to a flood risk. This research touched upon these ideas in terms of educated second generation British Asian men devaluing indigenous flood knowledge from abroad and opposing gender norms as well as there being greater equality between second generation husband and wife. There is a need to research in more detail how second generation British men interpret patriarchal control to understand whether it does diminish with each generation and how this may impact how second generation migrants respond to flood risk. Future research may also explore whether educated second generation men encourage autonomy amongst the women in their household in the same way as second generation women have been seen to do in this research. It must also be considered that second generation British males may also be vulnerable to flooding if they are expected to make decisions in the home and be responsible for the women in the family. In order to explore these questions a male researcher may be required to facilitate the research, especially if first generation migrant men do not value women and this consequently influences their attitude to participating in research with a female researcher.

The research also indicated that second generation adolescent women had less power in the home than men and older women, but hoped to address gender and social norms when they had their own families. Further research could focus specifically on comparing the enforcement of patriarchal control amongst first, second and third generation migrants to determine the extent to which gender norms were enforced and whether the voices of men may still be valued more than women. This could be explored in the context of the acculturation process as well as education and social class, and how this influences the behaviour of third generation migrants, both male and female, and their communication around and response to flood risk.

This could also include conducting quantitative research on a larger scale with a higher number of participants than was achieved in this research and including a larger number of non migrants in the sample. In order to further explore the research by Bonin et al. (2010), participants could be asked if they were worried about flood risk in order to determine whether the risk perceptions of second and third generation migrants were similar to the non migrant population. This research could only determine that second generation migrants did not have similar flood risk perceptions to first generation migrants but they did have similar risk perceptions to first and second generation migrants with flood experience in England. Yet this could not be related to the risk perceptions of non migrants due to low numbers of non migrants in the study locations.

### **9.3.3 The capacity of the researcher**

It is recognised that this thesis focused on the dominant migrant group in the research, namely South Asian migrants. On reflection, this highlights that there were other migrant ethnic minority groups in the research who may not have been researched in depth. One example is African migrants, specifically migrant women from Zimbabwe who touched upon aspects of respect and men making the decisions in the home in the interviews. This was not discussed in further detail in relation to how this influenced response to flooding. This is due to an oversight on behalf of the researcher in not recognising how discussion of these issues may have been related to patriarchy and extended to the gendered impact of flooding. Thus the limitations of the research are not only related to the ethnic diversity of the migrant groups, the small sample size or focus on migrant women but also on the capacities of the researcher. In order to discuss the reflexivity of the researcher, the next section is written in the first person.

Prior to conducting this research, I thought of myself as a qualitative researcher. I understand words, sentences and different languages; therefore I must be able to understand research that consists of people telling me their stories. This view was based on my naivety and lack of experience conducting qualitative research, and my issues working with numbers in quantitative research. This research challenged my impressions of what qualitative research is. I found it difficult to relate to the subjective nature of qualitative research and extend my thinking beyond superficial interpretations of the data. I wanted to quantify the interviews, I wanted statistical significance, percentages, and a definitive yes or no to the questions I asked.

It took time and continual immersion in the transcripts to look deeper and understand what participants were trying to say to me, albeit perhaps unconsciously, and specifically me because these were my personal interpretations of the data. Extending beyond the obvious answers to my questions, I found that there were underlying issues that individuals were

referring to but because I was looking to answer my objectives, I had dismissed these wider issues. This was also evident when conducting the research as I look back on interview transcripts and see that I didn't pursue comments or references to other issues that maybe I should have because my focus was on the research objectives.

The realisation that my research could be about wider issues that would still have an influence on my aims and objectives has made me think about how I would conduct research in the future; the importance of listening to what may appear to be insignificant discussion, to value the data I collect, and understanding that until I look beyond the superficial and relate my experiences to my research I will not truly have researched through a qualitative approach. It was only when I achieved this that I was able to write with conviction and renewed interest, because these wider issues relating to gender norms and the challenging of patriarchal control are important to me and subsequently have been reflected in my research.

In conducting this research, I have also realised that the methodology for any future research will continue to be guided by the research questions. I now have a better understanding of the type of data that I may collect from a quantitative or a qualitative method, and how my research approaches may lead to biases in the results produced, and this information will guide the approaches that I use in the future. I also recognise that although I have a better understanding of the merits of both research approaches, I still prefer to work through quantitative methods to achieve a definite answer to my questions and this is related to my personality and the desire for order and control in my work.

The realisation that certain issues were not explored in detail in this study provides an opportunity for further research. Research has indicated that patriarchal control is evident in Zimbabwe (Kambarami, 2006), yet due to lack of ethnic diversity amongst the qualitative sample in this research, patriarchal control and the gendered impact of flooding could not be explored in further detail outside of the South Asian migrants in the study. This highlights that further research could specifically locate migrants from countries where there is known enforcement of patriarchal control and specifically research the impact of this control on their response to flooding in England. This may be compared to the findings relating to South Asian migrant women in this research and how notions of risk bounded their actions.

Thus although the findings of this research have been seen to contribute to academic knowledge, there is still scope for further research amongst migrant ethnic minority groups in order to increase knowledge on flood risk in England and contribute to the risk perception literature.

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# Appendices

**Appendix A Flood prone areas cross tabulated with country of birth data (ONS, 2001)**

Year of flood	Region	Location (local authority)	Total population	Born in UK	Not born in UK	% not born in UK
		<b>United Kingdom</b>	49,138,831	44,594,817	4,544,014	9.25
2007	West Midlands	Birmingham (Aston)	977,087	816,054	161,033	3.54
2010	Greater London	Hammersmith (Shepherds Bush, Fulham)	165,242	109,811	55,431	1.22
2007	Yorkshire and Humber	Leeds (Collingham) (West Yorkshire)	715,402	667,852	47,550	1.05
2007, 2010	East	Luton	184,372	148,158	36,214	0.80
2007	Yorkshire and Humber	Sheffield (South Yorkshire)	513,234	480,630	32,604	0.72
2007	South East	Oxford (Oxfordshire)	134,248	108,332	25,916	0.57
2010	North West	Merseyside (Liverpool)	439,473	418,679	20,794	0.46
2007	South East	Milton Keynes	207,058	186,559	20,499	0.45
2008	South East	Southampton	217,445	198,193	19,252	0.42
2007	South East	Windsor and Maidenhead	133,627	115,428	18,199	0.40
1998, 2007	East	Bedford	147,913	129,812	18,101	0.40
2010	South West	Cornwall (St Blazey, St Austell, Mevagissey and Lostwithiel)	499,121	482,230	16,891	0.37
1998	East Midlands	Northampton	194,456	177,766	16,690	0.37
2007	South East	Aylesbury vale (Buckingham)	165,747	152,727	13,020	0.29
2007	North West	Preston (Lancashire)	129,632	118,059	11,573	0.25
2007	West Midlands	Solihull (Shirley)	199,517	188,414	11,103	0.24
2004, 2008	South West	North Cornwall (Boscastle)	88,806	77,963	10,843	0.24
1998, 2007	East	Huntingdonshire (Huntingdon and St Ives in 2007)	156,953	146,145	10,808	0.24

2007	Yorkshire and Humber	Harrogate (Knaresborough and Harrogate North Yorkshire)	151,335	141,905	9,430	0.21
2007	South East	West Berkshire (Thatcham and Newbury)	144,484	135,059	9,425	0.21
2000, 2010	South East	Sussex (mid)	127,375	118,038	9,337	0.21
2000, 07,09,10	North Yorkshire	York	181,095	171,814	9,281	0.20
2007	West Midlands	Shropshire (Shifnal and Ludlow)	283,172	274,084	9,088	0.20
2007	South East	Vale of white horse (Abingdon - Oxfordshire)	115,625	106,625	9,000	0.20
2000	South East England	Uckfield (Wealden-East Sussex)	140,025	131,541	8,484	0.19
2007	Yorkshire and Humber	East riding of Yorkshire (Hessle, Beverley)	314,119	305,650	8,469	0.19
2007	Yorkshire and Humber	Doncaster (South Yorkshire)	286,866	278,660	8,206	0.18
2007	Yorkshire and Humber	Wakefield (West Yorkshire)	315,172	307,231	7,941	0.17
2007	South West	Cheltenham (Gloucestershire)	110,009	102,206	7,803	0.17
2007	Yorkshire and Humber	Kingston upon Hull (East riding of Yorkshire)	243,589	236,220	7,369	0.16
2007	South West	Gloucester (Gloucestershire)	109,881	102,613	7,268	0.16
2007	North West	Pendle (Earby - Lancashire)	89,253	82,059	7,194	0.16
2007	South Yorkshire	Rotherham (South Yorkshire)	248,173	241,720	6,453	0.14
2007	North East	Middlesbrough (North Yorkshire)	134,855	129,045	5,810	0.13
2007	West Midlands	Herefordshire (Bromyard)	174,867	169,157	5,710	0.13
2007	South East	Kelmscott (Oxfordshire)	95,639	90,024	5,615	0.12
2007	North East	North Lincolnshire (Scunthorpe)	152,849	147,492	5,357	0.12
1998, 2007	West Midlands	Stratford on Avon	111,482	106,387	5,095	0.11
2008	South West	East Devon	125,517	120,510	5,007	0.11
2000	South East	Tonbridge (Kent)	107,562	102,606	4,956	0.11
2009	South East	Hastings (East Sussex)	85,029	80,362	4,667	0.10
2007	East Midlands	Gedling (Lambley - Nottinghamshire)	111,786	107,136	4,650	0.10
1947, 2000, 2008	West Midlands	Worcester	93,356	88,806	4,550	0.10

1998, 2007	West Midlands	Wychavon (Evesham, Pershore - Worcestershire)	112,955	109,001	3,954	0.09
2007	South Yorkshire	Barnsley (South Yorkshire)	218,060	214,288	3,772	0.08
000, 2005, 2007	West Midlands	Shrewsbury	95,856	92,099	3,757	0.08
2007, 2008, 2009	South West	Tewkesbury	76,407	73,046	3,361	0.07
2007	North East	Darlington (County Durham)	97,835	94,579	3,256	0.07
2007	North Yorkshire	Scarborough (North Yorkshire)	106,241	103,112	3,129	0.07
2007	West Midlands	Malvern hills (Tenbury wells - Worcestershire)	72,172	69,196	2,976	0.07
2007	East Midlands	Mansfield (Nottinghamshire)	98,188	95,541	2,647	0.06
2005, 2009	North West	Carlisle	100,741	98,185	2,556	0.06
2007	East Midlands	Chesterfield (Derbyshire)	98,846	96,307	2,539	0.06
2005, 2009	North West	Allerdale (Cockermouth and Keswick in Cumbria)	93,492	91,825	1,667	0.04
2008	North East	Morpeth (Northumberland)	48,997	47,361	1,636	0.04
2005, 2007	North Yorkshire	Ryedale (Helmsley, Pickering and Hawnby in North Yorkshire)	50,873	49,439	1,434	0.03
2005, 2009	North West	Eden (Appleby in Cumbria)	49,774	48,780	994	0.02

## Appendix B

### Questionnaire survey

Questionnaire No:

Location: Perry Bar/ Ravensthorpe

Date:

#### **Introduction/Confidentiality**

Good morning/afternoon/evening. My name is Simrat Riyait and I am a PhD student at Middlesex University. I am carrying out independent research which is partially funded by the University and the Environment Agency. It is not related to any initiatives by the government or local authority. The purpose of this research is to explore how different groups in the community understand issues around safety and risk, so we can find ways to improve how they respond to risks.

If you have 15 minutes to spare I would really like to talk to you. Anything you tell me will be kept in the strictest confidence- it won't be shared with anyone else. Your personal details will not be used and your responses will be added to those of everyone else meaning no one will be able to identify what you said

Would you have time to answer some questions please?

#### **(1) How long have you lived at this address?**

- |                  |   |
|------------------|---|
| Less than 1 year | 1 |
| 1-2 years        | 2 |
| 3-5 years        | 3 |
| 6-10 years       | 4 |
| 11-20 years      | 5 |
| 20 + years       | 6 |

#### **(2) Do you feel safe living in this area?** (NB: record responses if specific details mentioned)

- |            |   |
|------------|---|
| Yes        | 1 |
| No         | 2 |
| Unsure     | 3 |
| Don't know | 9 |

**(3) On the scale shown on this card how worried are you about the following:**

<b>Issue</b>	<b>1 Not worried at all</b>	<b>2 Slightly Worried</b>	<b>3 Worried</b>	<b>4 Very Worried</b>	<b>5 Unsure</b>
<b>Job security</b>					
<b>Family health</b>					
<b>Climate change</b>					
<b>Possibility of your home being flooded</b>					
<b>Local crime</b>					
<b>The UK economy</b>					

**4) Do you live in an area at risk from flooding?**

Yes 1  
No 2  
Don't know 9

I am interested in flood risk and would like to ask some more questions on that. By flooding I mean when water comes inside the home from outside. This includes water from rivers, canals, streams, the sea or rainwater/melting snow running off gardens and pavements, and overflowing from drains into your home. It does not include burst pipes or leaking appliances inside the home).

**(5) Do you think your actual property is at risk of flooding?**

Yes 1  
No 2  
Don't know 9

**(6) Is there an official flood warning service for your area?**

Yes 1  
No 2  
Unsure 3  
Don't know 9

**(6.1) Has this street/area ever flooded?**

Yes 1  
No 2  
Don't know 9

**(7) Have you ever experienced flooding in your home at this address?**

Yes 1  
No 2

**(8) Have you ever experienced flooding in any previous homes elsewhere in the UK?**

Yes (Please specify where)..... 1  
No 2 (Go to Q12 only if no to Q 6.1, 7  
& 8)

**(9) Did you receive any flood warnings prior to (local/elsewhere/last/major) flooding?**

Yes 1  
No 2  
N/A 0



**(10) How have you received flood warnings? (Please tick all that apply)**

Floodline Warnings Direct Service (Text/Email/Telephone message)	1
Flood Wardens	2
Family and Friends	3
Neighbours	4
Media (Television/Internet/Newspaper)	5
Other (Please provide details).....	6
N/A	0

**(11) How did you respond?**

.....

**Can you tell me a little more about the other people who live here and their relationship to you?**

	(12) What is their relationship to you?	(13) What is their age?	(14) Were you or any member of your household born outside of the UK? (where)	(15) Have they been here long? (yrs)	(16) Have you or any member of your household ever lived outside of the UK? (where)	(17) Have you or any member of your household experienced flooding outside of the UK? (where)
	Yourself					
Person 1						
Person 2						
Person 3						
Person 4						
Person 5						
Person 6						
Person 7						
Person 8						
Person 9						
Person 10						

**(18) Do you have other relatives who do not live in your home but who do live in the local area?**

Yes 1  
No 2 (Go to Q22)

**(19) Have these relatives who live locally experienced flooding in the UK?**

Yes (Please specify where)..... 1  
No 2  
Don't know 9  
N/A 0

**(20) Have these relatives experienced flooding outside the UK?**

Yes (Please specify where)..... 1  
No 2 (Go to Q22)  
Don't know 9  
N/A 0

**(21) Were these relatives born in the country in which they experienced flooding?**

Yes 1  
No 2  
Don't Know 9  
N/A 0

**(22) How would you describe yourself? Please select the category which you feel most closely describes the ethnic group to which you belong. Choose ONE section from A to E, and then select the appropriate box:**

<b>A</b>	<b>White</b>	<b>Tick</b>			<b>Tick</b>
1	British		4	Scottish	
2	Irish		5	Welsh	
3	English		17	White other background (Please specify)	
<b>B</b>	<b>Mixed Heritage</b>				
6	Asian and White		8	Black Caribbean and White	
7	Black African and White		17	Other Mixed background (Please specify)	
<b>C</b>	<b>Asian or Asian British</b>				
9	Indian		11	Bangladeshi	
10	Pakistani		17	Any other Asian background (Please specify)	
<b>D</b>	<b>Black or Black British</b>				
12	African		17	Other Black background (Please specify)	
13	Caribbean				
<b>E</b>	<b>Other Ethnic Group</b>				
14	Chinese		17	Other Ethnic background (Please specify)	
15	Arab				

**23) Please indicate how strongly you agree or disagree with the following statements about your household – the people who live here in the house with you – and your local community:**

<b>Statement</b>	<b>1 Strongly agree</b>	<b>2 Agree</b>	<b>3 Neither agree nor disagree</b>	<b>4 Disagree</b>	<b>5 Strongly disagree</b>	<b>0 Non Applicable</b>
I feel a part of the (insert ethnic group) community						
I feel part of my local/ neighbourhood community						
I am able to make my own decisions without consulting others						
I am influenced by other members in my household when making decisions						
The elders of a family should make the important decisions						
I/my family take advice from relatives living locally when making important decisions						
My local (insert ethnic group) community influences the decisions my family make						
If my home flooded I could call on people who live nearby to help me						

**(24) Gender** (note, don't ask)

Male 1  
Female 2

**(25) What languages are spoken in your home (Tick all that apply)**

English 1  
Punjabi 2  
Urdu 3  
Hindi 4  
Polish 5  
Hungarian 6  
Other (Please specify) ..... 7

**(26) What is the occupation of the main income earner in your household?**

.....

**Thank you for your time.**

I will be conducting further research in this area on people's experiences of flooding. I may be interested in talking to you/other members of your family. Would you be willing to be contacted again by myself to participate in this research?

If so take contact details:

**Questionnaire No:**  
**Ravensthorpe**

**Location: Perry Bar/**

**Street** .....**House No:**

**Date:**

**Participant Name**.....

**Telephone No:**.....

**Address:**.....

**Any other questions/queries?**

## Appendix C Interview schedule

### **Introduction**

Hello, it's nice to see you again. When we last spoke I talked to you about flooding in this area, and the flood warning service. By flooding I mean when water comes inside the home from outside. This includes water from rivers, canals, streams, the sea or rainwater/melting snow running off gardens and pavements, and overflowing from drains into your home. It does not include burst pipes or leaking appliances inside the home).

One part of understanding flooding is understanding the role of communities and my research is looking at how flood warnings can be improved in your community. So today, I will be talking to you about your flooding experiences and how involved you are in your local community.

### **Previous experience (5-10 minutes)**

1. Just to clarify, when we last spoke, you mentioned that you had experienced flooding. Can you tell me more about this (ask in detail)
2. Did you remember receiving a flood warning message (media/weather forecast/FWD/neighbours/friends/family/Flood Action Group/Emergency services)?

OR

1. When we last spoke, you told me that you had no experience of flooding. Since then have there been any other flooding events in this area?
2. Were you affected in any way?
3. Have you tried to find out any more about the flood warning service?

Just to clarify, as we discussed when we last spoke, you live in your home with (family members). Clarify what generation they are and others that may live locally. I just want to ask about your family and your involvement in the local community

### **Integration (15 minutes)** *(How integrated is the individual in the community)*

*How much do you feel a part of this community?- What does this mean/why/how (Main reason for feeling part of the community)*

*How would you describe your community?*

1. What language is mostly spoken in your home?
2. Do you want Asian television channels or listen to Asian radio stations? (Parents/What do you watch?)
3. Do you feel happy living in this area?
4. Do you get on with your neighbours? (Examples?)
5. Do you take part in any neighbourhood activities?
6. Do you have friends within your ethnic community? (Where are they from – work, neighbours, place of worship). Do you socialise with these individuals? What do you do?
7. Are you involved in any social groups within your ethnic community? (What about parents)
8. Do you have friends outside your ethnic community whom you socialise with?
9. Do you feel more comfortable amongst individuals from your ethnic community or the wider community? Why is this? (similar values/upbringing/morals/culture)
10. How often do you visit your place of worship?
11. Are you involved in any religious social activities?
12. Would you say you had strong cultural beliefs? (Why/why not and what do cultural beliefs mean to you?)

13. Do you have relatives living locally? (who)
14. How often do you see them? Do you have a close relationship with them (why)
15. Do you celebrate special occasions (New Year, birthdays, (Eid/Diwali/Christmas) with relatives?

**Interaction with other generations (15 minutes)**

***(Has the individual had any intergenerational communication about flooding)***

***How would you describe your relationship with other generations in your family?***

***How would you describe your relationship with other generations in your community?***

1. Do you talk to other generations in your family or the community? Why is this, how often, what about?-important decisions
2. How do you feel about taking advice from elder/younger generations? (Why-importance of elders, why not- credibility, not important?)
3. Do you think other generations take your advice (why not, how do you feel about this?)
4. Has anybody else in your home or other relatives living locally experienced flooding? (who)
5. Do you ever talk about flooding at all with other generations – their/your past experiences or when they were younger? (Do you speak about your flooding experiences?)
6. What was your reaction to their experiences- Did the flooding stories concern you?
7. Did you want to know more about their experiences – were you interested in their stories? (why)
8. Would you take advice from other generations about flooding- parents/grandparents/community (why not?)
9. Do you think knowing this information about other people's experiences affects your attitude towards flooding?

**Notions of risk (15 minutes)** ***(What are their perceptions of risk and How have the individual's perceptions of risk been influenced by other generations) (Does the interviewee have the same thoughts and opinions on flood risk as other members of family/generations)***

***What do you think about flooding? -***

***What they understand flooding is***

***What concerns they have about flooding (FWD)***

1. Do you think flooding is an important issue? Why do you think this?
2. What would make flood risk an important issue for you?
3. Are you worried about the flood risk to your home/family? (why not- not important?)
4. What makes you feel this way (previous experience of self/others, other priorities)
5. Are you worried about this area being flooded?
6. Have you talked to your family/friends about the flood risk to the area? What did you decide to do? (or anyone in home)
7. Have you sought out more information about the flood risk in this area? Why, from who? (or anyone in home)
8. Have you taken any precautions to protect your home against flooding? (Flood plan/boards for doors/Flood Action Group)
9. Do you know anybody else that has taken precautions against being flooded?
10. At what point would you consider protecting your home (another flood event/damage, advice from others?)
11. Did you know there is a flood warning service for this area? How did you find out?
12. Have you signed up for the service? What convinced you to sign up/ Why not?

13. Have you spoken to your friends and family about the warning service- Have they signed up?
14. Do you trust the service? Why
15. What would encourage you to sign up for the service?

**Flood risk communication and response (15 minutes) (How have they received and responded to flood warnings and what is the role of other people in this community?)**

*How did you receive warnings?*

*What was your response to the warnings?*

*How did you decide on this response?*

*How can the warning service be improved?*

We spoke earlier about your flood experience in this area, and whether you received any flood warnings and I just want to discuss that in a bit more detail.

1. If you received an official warning what was your initial response to the warning? (Did you understand the message?)
2. If you didn't receive an official warning how did you hear about the flooding before it happened? (family/friends/neighbours)- where did they get warning from?
3. Did you seek to confirm the message-where from? (elders -friends/family, official source)
4. Did you tell anybody else about the warnings you received (neighbours/family/friends?)
5. Did you trust the warning? Why
6. Did the warning prompt you to take any action? How did you respond
7. Why did you choose to respond/not respond - What was your decision based on? (Previous experience, won't affect them, unclear, no trust, lack of info, advice of others in community?)
8. How was the decision made in your household to respond to the warning? (role of older/younger generations/family outside the home). Who was involved in the decisions making?
9. Did relatives/members of the local community affect your decision? (their previous experience)
10. What do you think about the current flood warning system? (false warnings, late warnings, no warning received, message content/clarity, trust?)
11. What improvements do you think could be made to the current warning system
12. Ideally, how would you prefer to receive a warning? (Internet, media, Flood Action Groups, flood wardens, suggestions for other methods?) What would the message say
13. Who would you trust a warning from?
14. If you didn't act upon or receive a warning, what would encourage you to respond to a warning? (type of warning/trusted source?)

Is there anything that we haven't talked about that you also think would be useful for the research?

Take time to go through notes to make sure have covered key points. Verbally summarise key points of the conversation to allow individuals to clarify issues if required.

- Provide contact details
- Provide information about how the findings of the research will be made available for them if required.

**Thank you for your time.**

# Community Research

Dear resident

My name is Simrat Riyait and I am PhD student at Middlesex University. I will be conducting independent research in Ravensthorpe from the 18<sup>th</sup> July 2011. The purpose of the research is to explore how different groups in the community understand issues around safety and risk, so that we can find ways to improve how they respond to risks.

The research will involve conducting door to door interviews using questionnaires in the surrounding area.

If you would like to take part in the research or have any other queries please contact me:

Tel: 0208 411 6844

Email: [S.Riyait@mdx.ac.uk](mailto:S.Riyait@mdx.ac.uk)

Thank you,

Simrat Riyait



Environment  
Agency



Middlesex  
University



# Community Research

Dear resident

My name is Simrat Riyait and I am PhD student at Middlesex University. I will be conducting independent research in Perry Barr from the 11<sup>th</sup> July 2011. The purpose of the research is to explore how different groups in the community understand issues around safety and risk, so that we can find ways to improve how they respond to risks.

The research will involve conducting door to door interviews using questionnaires in the surrounding area. I'm sorry I missed you today, but I will be calling back in the next few days.

If you would like to take part in the research or have any other queries please contact me:

Tel: 0208 411 6844

Email: [S.Riyait@mdx.ac.uk](mailto:S.Riyait@mdx.ac.uk)

Thank you,  
Simrat Riyait



Environment  
Agency



Middlesex  
University

### Appendix F One to one interviews: Participant characteristics

	Name (pseudonym)	Gender	Age	Ethnicity	Generation (1 <sup>st</sup> , 2 <sup>nd</sup> , Non - migrant (NM)	Spoken language	Location	Flood experience in England (Yes/ no/ only street flooded)	Flood experience abroad
1	Sabeena	F	30	Kashmiri	2	English	PB	No	No
2	Farzana	F	22	Kashmiri	1	English	RV	Yes	Yes
3	Shimla	F	25	Bangladeshi	2	English	PB	No	No
4	Surjit	M	54	Indian	1	English	PB	Yes	India
5	Kamaljit	F	32	Indian	1	Punjabi	PB	No	India
6	Manpreet	F	31	Indian	2	English	PB	Yes	No
7	Davinder	M	29	Indian	1	English	PB	No	India
8	Junaid	M	33	Indian	2	English	RV	No	India
9	Tayaba	F	30	Indian	1	English/Punjabi	RV	No	India
10	Jatin	M	34	Indian	1	English	RV	No	India
11	Nagina	F	37	Pakistani	1	English	PB	Yes	No
12	Masood	M	31	Pakistani	1	Punjabi	PB	Flooding in street	Pakistan
13	Rubina	F	37	Pakistani	1	English	PB	Flooding in street	No
14	Yasmeen	F	32	Pakistani	1	Punjabi/English	PB	Yes	No
15	Shwaib	M	39	Pakistani	1	English	PB	Flooding in street	No
16	Arbaaz	M	40	Pakistani	1	Punjabi/English	PB	No	Pakistan
17	Fozia	F	38	Pakistani	1	Punjabi	PB	No	Pakistan
18	Noreen	F	33	Pakistani	1	English	PB	Flooding in street	No
19	Pari	F	47	Pakistani	2	Punjabi	PB	Yes	No
20	Aziz	M	50	Pakistani	1	English	RV	Yes	No
21	Ameena	F	32	Pakistani	2	English	RV	No	No
22	Omar	M	56	Pakistani	1	English	RV	Yes	No
23	Ambreen	F	29	Pakistani	2	English	RV	No	No
24	Ahmed	M	42	Pakistani	1	English	RV	Yes	No
25	Nosheen	F	31	Pakistani	1	Punjabi	RV	Yes	Yes
26	Maria	F	33	Pakistani	2	English	RV	Yes	Yes

27	Saima	F	32	Pakistani	2	English	RV	Flooding in street	No
28	Nasma	F	27	Pakistani	2	English	RV	Yes	No
29	Rabia	F	46	Pakistani	1	Punjabi/Urdu	RV	Yes	No
30	Hafza	F	19	Pakistani	2	English	RV	No	No
31	Jabeen	F	18	Pakistani	2	English	RV	No	No
32	Jamal	M	34	Pakistani	1	English	RV	Yes	Pakistan
33	Zubeida	F	18	Pakistani	2	English	RV	Yes	No
34	Huma	F	20	Pakistani	2	English	RV	No	No
35	Anisha	F	30	Pakistani	1	English	RV	Flooding in street	No
36	Samina	F	24	Pakistani	1	Punjabi	RV	No	Pakistan
37	Alia	F	22	Pakistani	2	English	RV	Yes	No
38	Rashida	F	34	Pakistani	2	English	RV	No	No
39	Shabnum	F	-	Pakistani	2	English	RV	Yes	No
40	Saba	F	18	Pakistani	2	English	RV	No	No
41	Asma	F	32	Pakistani	1	Punjabi	RV	Flooding in street	No
42	Jane	F	43	White British	NM	English	PB	Flooding in street	No
43	Rebecca	F	30	White British	NM	English	PB	Yes	No
44	Lisa	F	29	White British	NM	English	PB	Flooding in street	No
45	Louise	F	27	White British	NM	English	PB	No	No
46	Georgia	F	30	White British	NM	English	PB	Flooding in street	America
47	Debbie	F	37	White British	NM	English	PB	Flooding in street	No
48	Mary	F	60	White Irish	1	English	PB	Flooding in street	No
49	Naomi	F	35	Caribbean	2	English	PB	Yes	No
50	Tia	F	35	Caribbean	2	English	PB	Flooding in street	Jamaica
51	Nyasha	F	28	Jamaican	1	English	PB	Flooding in street	Jamaica
52	Ernest	M	36	Ethiopian	1	English	PB	Flooding in street	No
53	Tsitsi	F	28	Zimbabwean	1	English	RV	No	Zimbabwe

## Appendix G Key quantitative data

### 1. The influence of previous experience on notions of risk

- A higher percentage of participants who had previous flood experience were worried about flooding (67%) compared to those without flood experience (50%).
- More migrants who had previous flooding experience were worried about flooding (68%) compared to non migrants (62%).
- A higher percentage of participants who had experienced flooding were worried about flooding in Perry Barr (72%) compared to Ravensthorpe (64%).

The quantitative data indicated that previous experience is a key component in affecting attitudes to flood risk. The data showed that in general 67% of all participants (migrants and non migrants) who had previous flooding experience were worried about flooding and the difference between those that had previous experience and those who had no experience and were worried about flooding was significant (Table 1). The participants exposed to flooding were worried because it had happened: *'Once it's happened, that's it, it makes you paranoid even if it's raining'* (Natasha PBSG). Hence their notions of risk were affected by their previous experience, which also led to changes in their planned response for future flooding such as placing irreplaceable valuables in safer locations.

<b>Table 1</b> Have you experienced flooding in England or abroad	People who are worried about home flooding		Total	<b>Table 1 significance</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
	Not worried	Worried							
Yes	35	71	106	Pearson	6.971	1	<b>.008</b>		
	33%	67%	100%	Chi-Square	6.308	1	.012		
No	73	74	147	Continuity Correctionb	7.049	1	.008		
	50%	50%	100%	Likelihood Ratio				.010	.006
Total	108	145	253	Fisher's Exact Test	6.944	1	.008		
	43%	57%	100%	Linear-by-Linear Association					
				N of Valid Cases	253				

When previous experience was explored amongst migrants and non migrants, of those that had previous flood experience anywhere, 68% of migrants and 62% of non migrants were worried about flooding. There was a significant relationship between migrants with previous experience and whether they were worried about flooding, but no difference amongst non migrants and whether they had experienced flooding and were worried (Table 2). This may be because of the low number of non migrants who experienced flooding in the two areas and whether migrants experienced flooding in the UK or abroad.

<b>Table 2</b> Are they a migrant generation or non migrant x previous experience x people who are worried about home flooding			People who are worried about home flooding		Total
			Not worried	Worried	
Migrant	Yes	Count	27 32%	58 68%	85 100%
	No	Count	53 50%	52 50%	105 100%
Non migrant	Yes	Count	8 38%	13 62%	21 100%
	No	Count			

<b>Table 2 Significance Migrant</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.747	1	<b>.009</b>		
Continuity Correction <sup>b</sup>	6.001	1	.014		
Likelihood Ratio	6.824	1	.009		
Fisher's Exact Test				.012	.007
Linear-by-Linear Association	6.711	1	.010		
N of Valid Cases	190				

When compared by location, 72% of participants who had experienced flooding in Perry Barr were worried about flooding compared to 64% of participants in Ravensthorpe. There was a significant difference between all individuals in Ravensthorpe who had previous flooding experience and were worried about flooding and those that did not have a previous experience and were worried about flooding. However in Perry Barr there was no significant difference between those with and without flood experience and how worried they were about flooding. This suggests that there is a difference in the two communities as previous experience makes a difference in one but not the other (Table 3).

<b>Table 3</b> Location x previous flood experience x Are you worried about flooding			People who are worried about home flooding		Total
			Not worried	Worried	
PB	Yes	Count	10 28%	26 72%	36 100%
	No	Count	31 41%	44 59%	75 100%
RV	Yes	Count	25 36%	45 64%	70 100%
	No	Count	42 58%	30 42%	72 100%

<b>Table 3 Significance Ravensthorpe</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.287	1	<b>.007</b>		
Continuity Correction <sup>b</sup>	6.407	1	.011		
Likelihood Ratio	7.353	1	.007		
Fisher's Exact Test				.008	.006
Linear-by-Linear Association	7.235	1	.007		
N of Valid Cases	142				

Due to the different types of flooding in the area, it was expected that previous experience would lead to increased worry in Perry Barr, not Ravensthorpe. However, migrants may be less worried in Perry Barr if their previous experience was abroad. Participants discussed that flooding in the UK was less damaging than floods abroad: *“People got washed away when they were sleeping and drowned finding relatives. No the little flooding here was nothing compared to Jamaica”* (Nyasha PBFG). Subsequently, being in a developed country led to participants feeling safer: *“I don’t feel really scared because I think there must be some kind of protection here, this is a civilised country”* (Ernest PBFG).

Participants may be worried about flooding in Ravensthorpe because they did not receive any flood warnings. Additionally, although participants thought flooding abroad was more dangerous than in the UK, there were cases where flooding abroad was enjoyed: *“Most of the time we were playing in the dirty water and that was so fun!”* (Tayaba RVFG). Living in the UK, where there is more at risk means that the experiences in one location are not seen

to apply in the other: *“Because there’s a lot more involved here, there’s a lot more at stake”* (Tsitsi RVFG). Therefore, the previous flood experience abroad of residents in Ravensthorpe may have led to them being worried in the UK. Previous experience does affect perceptions of risk.

## 2. Awareness of flood risk

- Non migrants (79%) had greater awareness of the flood risk of the area they lived in than migrants (66%).
- There was a difference in awareness of flood risk by location as 82% of all participants in Perry Barr knew the area was at risk of flooding compared to 60% in Ravensthorpe.
- There was a difference in awareness of flood risk between migrants in the two study areas; Perry Barr migrants (79%) compared to Ravensthorpe migrants (58%).
- Awareness of flood risk in each area was different amongst migrant generations. Second generation migrants (96%) in Perry Barr had greater awareness and in Ravensthorpe first generation migrants (60%) had greater awareness.

The research explored understanding of flood risk and response to risk communication. The data indicated that there was greater awareness amongst non migrants (79%) compared to migrants (66%) that they lived in an area at risk of flooding (Table 4). The difference in awareness amongst migrants and non migrants was significant and indicates that ethnicity is a factor in affecting awareness of flood risk, supporting the literature (Robertson, 2004).

<b>Table 4</b> Are they a migrant or non migrant	Do you live in an area at risk from flooding?		Total
	Yes	No	
Migrant	126 66%	64 34%	190 100%
Not a migrant	50 79%	13 21%	63 100%
Total	176 70%	77 30%	253 100%

<b>Table 4</b> Significance	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	3.805	1	<b>0.05</b>		
Continuity Correction <sup>b</sup>	3.214	1	.073		
Likelihood Ratio	4.006	1	.045		
Fisher's Exact Test				.058	.034
Linear-by- Linear Association	3.790	1	.052		
N of Valid Cases	253				

Location was an important factor as the data indicated that 82% of all participants in Perry Barr knew the area was at risk of flooding compared to 60% in Ravensthorpe (Table 5). The difference in awareness between the two locations was significant. There may be greater awareness in Perry Barr as there is visible fluvial flooding in the area compared to surface water and cellar flooding in Ravensthorpe. This is supported by the qualitative research where a participant in Perry Barr argued that “because we live right next to the river and we have young children, so I’m more worried about it really” (Kamaljit PBFG). On the other hand, a participant in Ravensthorpe said: *“To be honest I’m not really sure, but I think my Dad probably might know something about it, but I think our area’s completely fine from the flooding”* (Huma RVSG).

<b>Table 5</b> Perry Barr vs Ravensthorpe		Do you live in an area at risk from flooding?		Total
		Yes	No	
Perry Barr	Count	91	20	111
	%	82%	18%	100%
Ravensthorpe	Count	85	57	142
	%	60%	40%	100%

<b>Table 5 Significance</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	14.402	1	.000		
Continuity Correction <sup>b</sup>	13.376	1	.000		
Likelihood Ratio	14.932	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	14.345	1	.000		
N of Valid Cases	253				

The data also indicated that there was greater awareness of the flood risk of the area amongst Perry Barr migrants (79%) compared to Ravensthorpe migrants (58%), possibly due to the issue of visibility of flooding (Table 6). There was a significant difference in the awareness of migrants in the two areas, but there was no significant difference in the awareness of non migrants in the two areas. Hence location does play a role in affecting awareness amongst migrants, but not non migrants, and therefore it cannot be assumed that all migrant communities would have the same attitude towards flood risk.

<b>Table 6</b> Are they a migrant or non migrant x location x Do you live in an area at risk of flooding?		Do you live in an area at risk from flooding?		Total
		Yes	No	
Perry Barr Migrants	Count	61	16	77
	%	79%	21%	100%
Ravensthorpe Migrants	Count	65	48	113
	%	58%	42%	100%

<b>Table 6 Significance Migrants</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.652	1	.002		
Continuity Correction <sup>b</sup>	8.706	1	.003		
Likelihood Ratio	10.008	1	.002		
Fisher's Exact Test				.002	.001
Linear-by-Linear Association	9.602	1	.002		
N of Valid Cases	190				

Awareness of the flood risk of each area was also different amongst migrant generations. A higher percentage of second generation migrants (96%) in Perry Barr had greater awareness but in Ravensthorpe a higher percentage of first generation migrants (60%) had greater awareness (Table 7). However, the results also indicated that there was a significant difference in awareness of flood risk between second generation migrants in Perry Barr and second generation migrants in Ravensthorpe but no significant difference in awareness amongst first generation migrants in both locations (Table 7).

<b>Table 7</b> What generation no is the participant x location x Do you live in an area at risk of flooding?		Do you live in an area at risk from flooding?		Total
		Yes	No	
First generation migrant	PB	37 71%	15 29%	52 100%
	RV	32 60%	21 40%	53 100%
Second generation migrant	PB	24 96%	1 4%	25 100%
	RV	33 55%	27 45%	60 100%

<b>Table 7 Significance</b> Second generation migrants	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson	13.429	1	<b>.000</b>		
Chi-Square Continuity Correctionb	11.637	1	.001		
Likelihood Ratio	16.766	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	13.271	1	.000		
N of Valid Cases	85				

The results have indicated that in terms of awareness of the flood risk in an area, there is a difference between migrants and non migrants in general and differences between each location. Additionally, these two communities differ in migrants' awareness of flood risk. Hence ethnicity and location is important in affecting awareness of flood risk amongst migrants. When this is explored within generations of migrants, the results also indicated that there are significant differences in awareness amongst second generation migrants in each location, suggesting that there is a reason that second generation migrants in Perry Barr have increased awareness. Thus there is a need to increase flood risk awareness amongst migrant groups because ethnicity and generations do affect awareness of flood risk.



### 3. Awareness of Floodline Warnings Direct Service

- Non migrants (71%) had greater awareness of the FWD service than migrants (48%).
- There was greater awareness of the FWD service amongst participants in Perry Barr (62%) compared to Ravensthorpe (38%).
- There was greater awareness of FWD amongst second generation migrants (56%) compared to first generation migrants (41%).

The other main question within this research related to awareness and response to the flood warning service, which was important because in order to target risk communication, there needs to be an understanding of whether migrant groups need to be specifically targeted. The data indicated that there was greater awareness of the service amongst non migrants (71%) than migrants (48%) and the difference in awareness between the two groups was significant (Table 8). Hence this is especially important for this research as it suggests the need to raise awareness of the flood warning service and target awareness raising amongst migrant groups.

<b>Table 8</b> Migrant vs Non migrant		Is there an official flood warning service for your area?		Total
		Yes	No	
Migrant	Count	91	99	190
	%	48%	52%	100%
Not a migrant	Count	45	18	63
	%	71%	29%	100%

<b>Table 8 Significance</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.541	1	.001		
Continuity Correction <sup>b</sup>	9.615	1	.002		
Likelihood Ratio	10.863	1	.001		
Fisher's Exact Test				.001	.001
Linear-by-Linear Association	10.499	1	.001		
N of Valid Cases	253				

There was a difference in awareness of the flood warning service by location, with a higher percentage of all participants in Perry Barr being aware of the service (68%) compared to Ravensthorpe (43%) and the difference between the two locations was significant (Table 9).

<b>Table 9</b> Perry Barr vs Ravensthorpe		Is there an official flood warning service for your area?		Total
		Yes	No	
Perry Barr	Count	75	36	111
	%	68%	32%	100%
Ravensthorpe	Count	61	81	142
	%	43%	57%	100%

<b>Table 9 Significance</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	15.178	1	.000		
Continuity Correction <sup>b</sup>	14.204	1	.000		
Likelihood Ratio	15.398	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	15.118	1	.000		
N valid Cases	253				

This may be due to the activities of the Flood Action Group in Perry Barr leading to increased awareness. These activities have included having a large ‘EA’ bus in the area where children could climb aboard and parents were told about FWD and could sign up, there are flood wardens, a regularly updated notice board at the local shop, door knocking in the area, and flood packs and warnings being delivered by wardens. On the other hand in Ravensthorpe, the lack of Flood Action Group and flood awareness activities may be a factor in the low awareness of FWD in the area. There has only been door knocking once several years ago by the local council and EA in certain streets in the area, leading to lack of awareness of the warning services available. At the beginning of the research in June 2011, 180 households were fully registered to Floodline Warnings Direct (FWD) in Perry Barr and this decreased to 179 at the end of the research in January 2013. In Ravensthorpe 812 households were registered and this increased to 822.

The data also indicated that there was a significant difference in the awareness of migrants in Perry Barr (62%) compared to migrants in Ravensthorpe (38%), but no significant difference in the awareness of non migrants (Table 10). Hence location is a factor in affecting migrant awareness of the flood warning service.

<b>Table 10</b> Are they a migrant generation or non migrant x Is there an official flood warning service for this area?		Is there an official flood warning service for your area?		Total
		Yes	No	
Migrant	Perry Barr	48 62%	29 38%	77 100%
	Ravensthorpe	43 38%	70 62%	113 100%
Non migrant	Perry Barr	27 79%	7 21%	34 100%
	Ravensthorpe	18 62%	11 38%	29 100%

<b>Table 10 Significance</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.822	1	.001		
Continuity Correction <sup>b</sup>	9.871	1	.002		
Likelihood Ratio	10.914	1	.001		
Fisher's Exact Test				.001	.001
Linear-by-Linear Association	10.765	1	.001		
N of Valid Cases	190				

This may be related to EA awareness raising activities as migrants were aware of activities in Perry Barr: *“They have a leaflet posted to say if there’s any flood, and they are doing something about building a wall so the next time a flood comes, you know, there’s something to stop it actually coming over”* (Rubina PBFG).

Yet in Ravensthorpe, migrants indicated lower awareness, despite extensive EA door knocking activities: *“Everybody knows that if there is heavy rainfall outside then you will know that there is flooding, but we don’t get to know much, only Kirklees Council can tell us if there is water coming. If there is heavy rainfall elsewhere and not much rainfall here, we won’t know if we are at risk”* (Nosheen RVFG). There were also misconceptions as they mentioned receiving leaflets about the flood risk, which they thought were flood warnings: *“I’ve had letters through the post, I think...just to give me a warning, saying that, you know, my house is in one of the risk areas of flooding”* (Ameena RVFG). Thus there is a need to raise awareness of the flood warning service in Ravensthorpe: *“The area is so deprived of attention, anything would be an improvement”* (Zubeida RVSG).

The data was also explored in relation to migrant generations and showed that there was higher awareness of the flood warning service amongst second generation migrants (56%) compared to first generation migrants (41%) in general, and the difference between the two groups was significant (Table 11).

<b>Table 11</b> Migrant generation x Is there an official flood warning service for your area?		Is there an official flood warning service for your area?		Total
		Yes	No	
First generation migrant	Count	43	62	105
	%	41%	59%	100%
Second generation migrant	Count	48	37	85
	%	56%	44%	100%

<b>Table 11 Significance</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.533	1	<b>.033</b>		
Continuity Correction <sup>b</sup>	3.932	1	.047		
Likelihood Ratio	4.548	1	.033		
Fisher's Exact Test Linear-by-Linear Association	4.509	1	.034	.041	.024
N of Valid Cases	190				

This was further seen when comparing first and second generation migrants in each location. The results indicated that in both locations second generation migrants had greater awareness of the service (PB - 84%, RV - 45%) (Table 12). There was a significant difference in awareness between first and second generation migrants in Perry Barr but not in Ravensthorpe. This further supports the need to target flood warnings at migrant groups and specifically to acknowledge differences between different migrant generations.

<b>Table 12</b> What generation no is the participant x location x Is there an official flood warning service for your area?			Is there an official flood warning service for your area?		Total
			Yes	No	
PB	First generation migrant	Count	27	25	52
		%	52%	48%	100%
	Second generation migrant	Count	21	4	25
		%	84%	16%	100%
RV	First generation migrant	Count	16	37	53
		%	30%	70%	100%
	Second generation migrant	Count	27	33	60
		%	45%	55%	100%

<b>Table 12 Significance Perry Barr</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.399	1	<b>.007</b>		
Continuity Correction <sup>b</sup>	6.096	1	.014		
Likelihood Ratio	8.014	1	.005		
Fisher's Exact Test Linear-by-Linear Association	7.303	1	.007	.011	.006
N of Valid Cases	77				

Hence the data suggests that in terms of awareness of the flood warning service, ethnicity is an important factor and awareness varies amongst migrants in different locations but there are also differences in awareness between migrant generations. Furthermore, misconceptions about the services provided by the EA indicate that there is a need to address perceptions about the flood warning service to encourage understanding and recruitment to the service amongst migrants. There is a need to target flood risk communication amongst migrant communities.

#### 4. Intergenerational communication about flood experience affecting risk perceptions

- Participants who had relatives with flood experience were more worried about flooding (68%) than those with relatives that had no flood experience (53%).
- A higher percentage of migrants with relatives who had flood experience were worried about flooding (70%) compared to non migrants (50%).

The effect of intergenerational communication on notions of flood risk was explored by looking at individuals' attitudes to flood risk against whether their relatives had an experience of flooding. The data showed that 68% of participants who knew relatives who had flooded were worried about flooding themselves and the difference between the two groups was significant (Table 13). This indicates that if individuals are embedded in their community, they are more likely to talk to relatives which may inform their perceptions of risk. This may affect their response to risk communication: *"I just wouldn't think it was anything that would affect me...but having seen the photos I would definitely take it much more seriously if I did get a flood warning, definitely"* (Tia PBSG).

<b>Table 13</b> Relatives with flood experience x People who are worried about flooding			People who are worried about home flooding		
			Not worried	Worried	
Relative flood experience	Yes	Count	24 32%	52 68%	76 100%
	No	Count	84 47%	93 53%	177 100%

<b>Table 13 Significance</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.480	1	<b>.019</b>		
Continuity Correction <sup>b</sup>	4.850	1	.028		
Likelihood Ratio	5.590	1	.018		
Fisher's Exact Test				.026	.013
Linear-by-Linear Association	5.458	1	.019		
N of Valid Cases	253				

When this was explored further amongst migrants and non migrants, a higher percentage of migrants who knew relatives with flood experience were worried about flooding (70%) compared to non migrants (50%) and this was statistically significant (Table 14). This means that having relatives with flood experience does make a difference to migrant attitudes towards flood risk but it doesn't affect non migrants. This further suggests the cultural implications of integration into ethnic communities amongst migrants.

<b>Table 14</b> Are they a migrant generation or non migrant x relative flood experience x worried about home flooding				People who are worried about home flooding		
				Not worried	Worried	
Migrant	Yes	Count		21 30%	49 70%	70 100%
	No	Count		59 49%	61 51%	120 100%
Not a migrant	Yes	Count		3 50%	3 50%	6 100%
	No	Count		25 44%	32 56%	57 100%

<b>Table 14 Significance Migrant</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.663	1	<b>.010</b>		
Continuity Correction <sup>b</sup>	5.900	1	.015		
Likelihood Ratio	6.796	1	.009		
Fisher's Exact Test				.015	.007
Linear-by-Linear Association	6.628	1	.010		
N of Valid Cases	190				

## 5. The devaluation of flood experience and knowledge from abroad

- A higher percentage of participants would take the advice of relatives who had flooded (66%) than those that would not take advice from relatives with flood experience (34%)
- A higher percentage of migrants who knew relatives who had flooded would ask their advice (67%) compared to non migrants (50%).
- The data relating to taking flood advice from relatives with flood experience in England was significant but data relating to taking advice from relatives with flood experience abroad was not significant.

The data showed that where relatives had flood experience, 66% of participants would ask the advice of relatives living locally when making important decisions (Table 15). There was a significant difference between those that had relatives with flood experience and took their advice compared to those with relatives with flood experience who didn't take their advice.

<b>Table 15</b> Relatives with flood experience x People who take advice from relatives		I/My family take advice of relatives living locally when making important decisions		Total
		Agree	Other	
Yes	Count	50	26	76
	%	66%	34%	100%
No	Count	72	105	177
	%	41%	59%	100%

<b>Table 15 Significance</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	13.428	1	.000		
Continuity Correction <sup>b</sup>	12.441	1	.000		
Likelihood Ratio	13.579	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	13.375	1	.000		
N of Valid Cases	253				

The data also indicated the occurrence of intergenerational flood risk communication as a higher percentage of migrants (67%) knew relatives who had flooded and took the advice of relatives compared to 50% of non migrants (Table 16). This was significant for migrants indicating that there is a difference between migrants with relatives who had flood experience and those without experience and whether they take their advice.

<b>Table 16</b> Are they a migrant generation or non migrant x relative flood experience x I/My family take advice of relatives living locally when making important decisions			I/My family take advice of relatives living locally when making important decisions		Total
			Agree	Other	
Migrant	Yes	Count	47	23	70
		%	67%	33%	100%
Relative Flood experience	No	Count	53	67	120
		%	44%	56%	100%
Non migrant	Yes	Count	3	3	6
		%	50%	50%	100%
Relative Flood experience	No	Count	19	38	57
		%	33%	67%	100%

<b>Table 16 Significance Migrant</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.362	1	.002		
Continuity Correction <sup>b</sup>	8.463	1	.004		
Likelihood Ratio	9.508	1	.002		
Fisher's Exact Test				.003	.002
Linear-by-Linear Association	9.312	1	.002		
N of Valid Cases	190				

However, when this was explored further, the data indicated that 72% of participants would take the advice of relatives who had experienced flooding in the UK (Table 17). This was significant, indicating that there is a reason why they would take that advice, and not due to chance as was explored in the qualitative data.

<b>Table 17</b> Relatives with flood experience in the UK x People who would take advice from relatives.		I take advice from relatives when making important decisions.		Total
		Agree	Other	
Relative flood experience in the UK	Yes	26 72%	10 28%	36 100%
	No	96 44%	121 56%	217 100%

<b>Table 17 Significance</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson	9.683 <sup>a</sup>	1	<b>.002</b>		
Chi-Square	8.595	1	.003		
Continuity Correction <sup>b</sup>	9.932	1	.002		
Likelihood Ratio				.002	.002
Fisher's Exact Test					
Linear-by-Linear	9.645	1	.002		
Association					
N of Valid Cases	253				

In contrast, 75% of people would take advice from relatives who had flood experience abroad, but the results were not significant, and this may be related to the low sample size (Table 18). This means that the findings could have been due to chance. The qualitative research was used to probe this issue further and revealed the devaluation of knowledge from abroad.

<b>Table 18</b> Relatives with flood experience abroad x People who would take advice from relatives.		I take advice from relatives when making important decisions.		Total
		Agree	Other	
Relative flood experience abroad	Yes	9 75%	3 25%	12 100%
	No	113 47%	128 53%	241 100%

<b>Table 18 Significance</b>	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson	3.618 <sup>a</sup>	1	<b>.057</b>		
Chi-Square	2.580	1	.108		
Continuity Correction <sup>b</sup>	3.753	1	.053		
Likelihood Ratio				.076	.053
Fisher's Exact Test					
Linear-by-Linear	3.604	1	.058		
Association					
N of Valid Cases	253				

The qualitative research further indicated that there were differing attitudes to taking advice from other generations about flooding. Positive opinions related to prior experience: *"Yeah it is because it has happened. Because you feel they experience it, really easier for me to talk to that person if they have experienced that and then they would say OK who has insurance and everything"* (Tsitsi RVFG). However, it seemed that older generations with experience abroad would not know how to advise on flooding in the UK: *"It is a different part of the world, different types, different situations you can't even compare it"* (Ernest, PBFG). This suggests that there are conflicting attitudes to asking for flooding advice and it is dependent on the location of experience of relatives and whether they can advise in the current situation.

## Appendix H Ethics and risk form

Social Sciences Academic Group Ethics sub-Committee:

The purpose of this form is to help staff and students in the Social Sciences Academic Group in their pursuit of ethical research methodologies and procedures.

For staff members, the Social Sciences Academic Group Ethics sub-Committee (SSAGESC) will review all proposals/forms. Ethics approval will normally be obtained from SSAGESC before seeking any external ethics approval required. However, if ethics approval has already been obtained from a recognised research ethics committee external to Middlesex University, this will be taken into account. No fieldwork should begin until all necessary ethics approvals have been obtained.

For research students (M.Phil/PhD), the ethics form is submitted with other documents required for registration and is then passed to the Social Sciences Academic Group Ethics sub-Committee (SSAGESC) for review. Ethics approval should be obtained from SSAGESC before seeking any external ethics approval required. No fieldwork should begin until such approval has been obtained and ratified by the Research Degrees Committee. Any proposed change to the methodology approved by SSAGESC must be discussed with your supervisors and may necessitate a fresh application for ethics approval.

Please complete the form giving as much detail as possible. If a question is not applicable, please indicate by marking N/A. Research students should discuss and complete the form with their supervisors.

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### 1. Personal details

**a) Name of principal investigator:**

Simrat Riyait

**b) Address:**

Flood Hazard Research Centre, Middlesex University  
North London Business Park (NLBP)  
Building Two, 2nd Floor  
Oakleigh Road South  
New Southgate, London, N11 1NP

**c) Phone Number:**

020 8411 5529

**d) Email address:**

S.Riyait@mdx.ac.uk

**e) Name(s) of staff and/or other collaborators (if applicable):**

**f) For students only:**

Student number: M00307913

### 2. For research students:

**a) Year of study:**

4th

**b) Mode of study:**

Full-time

**c) Names of supervisors:**

Sarah Bradshaw, Sue Tapsell, Simon McCarthy

**d) Date of enrolment:**

January 2010

**e) Date of registration:**

22<sup>nd</sup> July 2010

**f) Date of transfer from MPhil to PhD:**

15<sup>th</sup> July 2013

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**3. Details of proposed study:**

**a) Title of study:** 'Flood warnings and migrant groups'

**b) Please give a brief description of the nature of the study (50-100 words), including details of data collection procedures:**

This is a qualitative research study exploring flood risk communication amongst different generations of migrant groups and how their responses to risk communication may be informed by previous flooding experience and intergenerational communication. The methodology will entail using census data to identify flood risk areas with high numbers of migrant groups followed by a community study involving door to door questionnaires to locate and identify migrant groups. Contact will be made with flood wardens and community gatekeepers to facilitate access into the communities. The main qualitative research will include in depth interviews. The sample groups will include older and younger people, male and female participants, different migrant groups and migrant generations.

**Additional work undertaken: May 2013**

\* It must be noted that after the original research was conducted there was a need to return to the study areas and conduct further interviews with key informants at the Environment Agency, local council and flood wardens as well as selected participants to discuss data that was collected through the one to one interviews which was unclear and required further clarification.

**c) Will primary data be collected?**

Yes

**If NO, please go to Section 7 of this form.**

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**4. Details of the participants in the study:**

**a) From what population will your participants be drawn?**

Residents located in the selected flood risk areas in the two study sites.

**b) How many participants will be involved in your study? Please provide an estimate.**

This will be dependent on the migrant populations in 'at risk' areas who agree to participate in the door to door questionnaires and the one to one interviews.



**c) Are children aged 18 or under to be involved?**

Yes

**If yes, what ages will your participants be?**

The study will not specifically be looking at children as a sample group, but younger adolescents may be included if they are second and third generation migrants. The researcher has previously had a CRB police check, which was renewed prior to starting the research.

Please note: If you are conducting research with children (under the age of 18) or vulnerable adults you must undergo a police check. This takes 6 or more weeks.

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**5. Access and consent:**

**a) Briefly describe how access will be gained to the participants:**

Access to migrants will be arranged through the door knocking process where questionnaires will be used to locate and identify the migrant groups in the area. The aim of the questionnaire is to recruit participants by speaking to one member of the household to capture household characteristics including ethnicity and country of birth and establish whether they have had flood experience. The questionnaire will be used to confirm which migrant communities are in the area and identify first and 'other' generation migrants for the intergenerational aspect of the research. The residents who participate in the questionnaire survey will be asked if they are willing to take part in the qualitative research consisting of one to one interviews.

**b) Will informed consent be sought from any gatekeepers? (e.g. in care homes; prisons; schools)**

No

**If so, what gatekeepers?**

**Will you obtain written consent from the gatekeepers?**

**c) Will informed consent be obtained directly from all participants**

Yes

**If yes, will you obtain written consent?**

Yes

**d) Will payment or an incentive be offered to participants?**

No payment will be offered for participants completing the door to door questionnaire. An incentive of a £15.00 gift voucher will be offered to participants if they are willing to take part in the interviews. Only one voucher per person. Participants will be asked to sign to say they have received their voucher payment.

**If yes, please state amount of payment or type of incentive**

A £15.00 gift voucher from Marks and Spencer

**e) Length of session for an individual participant (if more than one session, please give number and nature of sessions and amount of time for each):**

- July 2011 - Questionnaire conducted via door knocking- Approximately 10-15 minutes.
- March 2012 - One to one interviews- 1-1.5 hours maximum.

- \*Additional research conducted- interviews with key informants, May 2013– 1- 1.5 hours max

The total amount of time per person should be no longer than 2 hours depending on if they participate in both sessions. The sessions will not be consecutive and will be spread out over several months as data from each session is analysed and material prepared for the next research session. I will also gain permission from participants to audio record interviews.

**f) In what locations will data gathering take place?**

- Pilot of questionnaire amongst students at Middlesex University and door knocking in 2-3 streets in 2 local flood risk areas – Slough and Staines
- Questionnaires conducted through door knocking will take place on door steps of participant's homes.
- One to one interviews will take place in the participant's home.
- Additional key informant interviews – At Environment Agency offices, via email and at participant's homes.

**g) Will you inform your participants of their right to withdraw from the research?**

Yes

**h) Will you guarantee confidentiality of information to your participants?**

Yes

**i) Will you guarantee anonymity to your participants?**

Yes

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**6. Safety and legal issues**

**a) Will you be alone with a participant?**

No

**b) Will you be alone with a group of participants?**

No

**c) What safety issues does your methodology raise for you and for your participants?**

The questionnaire surveys and interviews with participants will be one to one. There will be no physical risks from the actual research methods employed, but the research involves dealing with the public and potential hazards may include confrontations, emotional distress and misinterpretation within groups. The researcher has undertaken research methods courses on how to manage issues arising whilst interviewing. The researcher will also be accompanied by an assistant throughout the research process and will not be alone with any participants at any point.

**d) What legal issues does your methodology raise for you and for your participants?**

N/A

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**b) Are there any ethical issues which concern you about this particular piece of research?**

Yes

**If yes, please specify and explain how you intend to deal with each issue:**

There may be some language difficulties amongst certain migrants who may not be able to communicate in English. In order to address this, I will communicate with them as much as I can in Punjabi and aim to clarify any responses they provide in order to minimise misinterpretations of questions or answers. If required, I will use a translator, but will make sure that I am able to understand responses from participants as much as I can to ensure no information is misinterpreted in translation. There may be some difficulty amongst migrants in understanding flood risk concepts and I will aim to explain patiently and carefully what my research aims to do and why they are participating. I will make sure they fully understand the purpose of the research and how it will potentially benefit migrant communities by raising awareness of flood risk and highlighting routes for gaining support, as well as directing participants towards preparatory measures that could be taken to prepare for a flood. I will make sure to gain written consent from participants before proceeding with the research, including consent to audio record the interview sessions.

Additionally, migrants may have certain cultural views about being interviewed by a woman and I will respect any concerns they have and try not to offend any participants. I will also try to include women and men in the research but am aware that there may be restrictions on women participating in the research, whilst men may be uncomfortable with a female researcher. The research will include questioning participants about their experiences of flooding. This may be upsetting for some participants who may find it traumatic to relive any flooding experiences. I will aim to be sensitive and empathetic when talking to participants specifically about flooding experience in order to minimise any distress caused. I will especially try not to offend any older participants who may have stronger cultural beliefs and may get upset more easily if they have to remember their home countries and experiences. I will also provide information on community groups and flood groups for those who need support or would like further information.

I must be aware that individuals may know other participants due to the close nature of communities. Hence I must make sure that any existing issues between individuals do not influence the research.

Furthermore, younger participants may be included in the research and I must make sure not to alarm them with any flooding information that they could misinterpret. I will also make sure that they have access to further support and information if required. I must also gain permission from guardians to talk to participants under the age of 18 for the qualitative research.

I must consider that participants may want to remain anonymous and not want their responses to be linked to their identities. In these cases, I will respect their requests and ensure that names of participants are changed and they are also not identifiable through their descriptions or characteristics, especially as participants may be easier to identify amongst smaller migrant communities. I will also try to make sure that the results of the research are available to participants if they would like access to them.

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I believe the information given above to be true. The methodology outlined above will be the methodology used in my research. I will notify my supervisor(s) (students) Chair of the Social Sciences Academic Group Ethics sub-Committee (staff) of any proposed changes to this methodology.

**Signature of Investigator:**  
**Simrat Riyait**

**Date: 28/06/2013**

**Signature of Supervisor(s):**

**Date: 03/07/13**

S. M. Tapell

S. S. Mearns

**Please note: Student applications must be approved by ALL supervisors and ALL supervisors must sign the application form.**  
**Undergraduate and postgraduate students being supervised across subject areas (e.g. CRM and PSY) MUST obtain the agreement of BOTH supervisors.**

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**Staff/Research students/other student applications referred to Social Sciences Academic Group Ethics sub-Committee (SSAGESC)**

**Passed by Social Sciences Academic Group Ethics sub-Committee**

**Name of 1st SSAGESC representative (please print):**

**Signature:**

**Date: 03/07/13**

S. Bruden

**Name of 2nd SSAGESC representative (please print):**

**Signature:**

**Date:**